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DEPARTMENT OF TRANSPORTATION AND RELATED AGENCIES APPROPRIATIONS FOR 1994

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BEFORE A

SUBCOMMITTEE OF THE
COMMITTEE ON APPROPRIATIONS
HOUSE OF REPRESENTATIVES

ONE HUNDRED THIRD CONGRESS
FIRST SESSION

SUBCOMMITTEE ON THE DEPARTMENT OF TRANSPORTATION AND RELATED AGENCIES APPROPRIATIONS

BOB CARR, Michigan, *Chairman*

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MARTIN OLAV SABO, Minnesota	TOM DeLAY, Texas
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DELACROIX DAVIS III, RICHARD E. EFFORD, CHERYL L. SMITH, and LINDA J. MUIR,
Subcommittee Staff

PART 4

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RELATED AGENCY:
Washington Metropolitan Area Transit Authority 1063

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DEPARTMENT OF TRANSPORTATION AND RELATED AGENCIES APPROPRIATIONS FOR 1994

WEDNESDAY, APRIL 28, 1993.

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

WITNESSES

HOWARD SMOLKIN, ACTING ADMINISTRATOR
BARRY FELRICE, ASSOCIATE ADMINISTRATOR FOR RULEMAKING
MICHAEL BROWNLEE, ASSOCIATE ADMINISTRATOR FOR TRAFFIC SAFETY PROGRAMS
ADELE DERBY, ASSOCIATE ADMINISTRATOR FOR REGIONAL OPERATIONS
GEORGE PARKER, ASSOCIATE ADMINISTRATOR FOR RESEARCH AND DEVELOPMENT
DONALD BISCHOFF, ASSOCIATE ADMINISTRATOR FOR PLANS AND POLICY
WILLIAM A. BOEHLY, ASSOCIATE ADMINISTRATOR FOR ENFORCEMENT

OPENING REMARKS

Mr. CARR. Good morning. This morning we will hear testimony on the fiscal year 1994 budget request of the National Highway Traffic Safety Administration.

As the Federal agency primarily concerned with promoting highway safety and reducing highway-related fatalities and injuries, NHTSA has important responsibilities in the areas of highway safety research and development, demonstration, education and information. The establishment and enforcement of motor vehicle safety standards are also a vital activity for NHTSA, and we will discuss some of these activities today.

Our principal witness is the Acting Administrator, Howard Smolkin. We also have various associate administrators who I will ask Mr. Smolkin to introduce for the record.

We have your statement. We will make it a part of the record. I ask in the interest of time that you summarize your statement and then we can get right to questions.

Mr. Smolkin.

OPENING STATEMENT

Mr. SMOLKIN. Thank you, Mr. Chairman, and good morning.

Before I present our budget for 1994, I would like to congratulate you on your chairmanship. This subcommittee has been a leader both in supporting traffic safety programs and in making them more effective. NHTSA looks forward to working with you to achieve our common goal of increasing traffic safety with programs that spend Federal dollars wisely and effectively.

Mr. Chairman, I would like to introduce NHTSA's associate administrators who are present today. On my right is Barry Felrice, our Associate Administrator for Rulemaking. Next to Barry, is Bill Boehly, who is in charge of Enforcement. To his right is George Parker, who is in charge of Research and Development.

Turning to my left, Don Bischoff is in charge of Plans and Policy. Next to Don is Adele Derby, who is in charge of Regional Operations. And at the end of the table is Mike Brownlee, who is in charge of Traffic Safety Programs.

FISCAL YEAR 1994 BUDGET REQUEST

It is my pleasure this morning to present NHTSA's budget request for fiscal year 1994. Our budget reflects the high priority given to traffic safety by the Clinton administration, and conforms with our Priority Plan, a document focused on the Nation's most serious road safety issues. A key feature of the Priority Plan is its emphasis on accountability. We regularly evaluate our vehicle safety standards, our highway safety programs and our consumer-related activities, and incorporate these findings into our plans. The priority plans and the current budget request reflect our emphasis on funding the most promising and effective programs.

SAFETY TRENDS

The fiscal year 1994 program addresses the latest traffic safety trends and is designed to build on the agency's recent accomplishments. A number of safety trends are encouraging. Despite an increasing amount of travel on the roads, the number of fatalities declined to about 39,200 in 1992. This is the lowest level in 30 years. The traffic fatality rate dropped to an all-time low of 1.8 fatalities per 100 million miles of vehicle travel. If the fatality rate of 2.8 which was recorded in 1982 had continued, we estimate that an additional 22,000 people would have died from traffic crashes last year.

Notwithstanding this progress, vehicle crashes still account for about 90 percent of all U.S. transportation deaths and constitute the fourth leading cause of all deaths. Crashes are the leading cause of personal injury, injuring over 5 million people in 1992, 500,000 of whom were hospitalized.

ECONOMIC AND HEALTH CARE COSTS

The economic and health-related costs of motor vehicle crashes are substantial. The annual economic cost to society now exceeds $137 billion in lost productivity, medical costs, property damage and other expenses.

Our programs are designed to reduce this loss, including the crash-related medical and health costs borne by individuals, the private sector and government. The total lifetime medical cost of vehicle crashes is conservatively estimated at $14.4 billion per year. Since $4 billion of this cost is paid by medicare and medicaid, improvements in traffic safety can result in substantial tax savings.

FISCAL YEAR 1994 BUDGET REQUEST OVERVIEW

Let me now turn to some of the specifics in the fiscal year 1994 budget proposal. NHTSA is requesting $307 million for fiscal year 1994, an increase of $37 million over fiscal year 1993. This budget provides $130 million for operations and research for the purpose of meeting legislative requirements and managing programs in critical national safety areas. The budget also provides $177 million for highway safety grants to the States. I will briefly highlight a number of the major programs proposed for fiscal year 1994.

VEHICLE RULEMAKING

In the area of vehicle safety standards, a major goal for fisal year 1994 is to complete final regulatory action on vehicle safety rules mandated by the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). We are requesting $500 thousand for fiscal year 1994 in this area. This is $200 thousand less than fiscal year 1993. We can manage with a smaller budget because research and other rulemaking support for ISTEA regulations will be in place this year. Among other benefits, these rulemaking actions will enhance occupant safety in frontal and side impacts as well as in rollover crashes. The rulemakings also will consider antilock brakes for light and heavy duty vehicles.

IMPAIRED DRIVING

No matter what success we achieve in making the vehicle safer, a critical ingredient in traffic safety will always be the driver. We are continuing to focus special attention on the problem of drivers impaired by alcohol and other drugs. We are seeing progress: alcohol-related deaths are down 10 percentage points in the past 10 years. Nonetheless, impairment remains a major problem.

We are requesting $6.5 million for alcohol programs in fiscal year 1994, an increase of $2.2 million. Secretary Peña has set a bold, major goal for alcohol safety—Reduce alcohol-related deaths to 43 percent of the total fatalities by 1997. The rate in 1992 was 45.8 percent. It was 48 percent in 1991. Just the one-year decline saved an estimated 1,600 lives.

SAFETY BELTS

Now we all know the best defense against the drunk driver, as well as other traffic safety dangers, is use of a safety belt. Safety belts saved over 5,500 people last year, as the usage rate reached 62 percent nationwide. Secretary Peña has established a new goal for the agency to reach—75 percent national belt usage by 1997. Achieving these gains in usage levels will be difficult in the future as we try to reach the hard-core nonuser groups.

INTELLIGENT VEHICLE HIGHWAY SYSTEMS (IVHS)

Speaking of the future, advanced research is crucial if NHTSA is to be able to meet future needs for passenger safety. Both the IVHS and the simulator programs fall into this category of future technology. The crash avoidance capability of passenger vehicles can be improved significantly in the future, but making these advancements will demand new tools.

NHTSA is requesting $7.5 million for IVHS, and this would be supplemented with $9 million for NHTSA in FHWA's budget request. NHTSA is an active participant in the Department's IVHS program. We are responsible for developing performance guidelines for vehicle crash avoidance systems. We also will carry out vehicle safety evaluations as a formal part of the Department's IVHS mobility enhancement projects. One of our important tasks will be to work in cooperation with industry to facilitate the commercial application of promising designs.

NATIONAL ADVANCED DRIVING SIMULATOR (NADS)

Our program to develop a motion-based simulator will give the agency and the industry an essential tool for designing improved levels of crash avoidance into future vehicles and roadways. We are requesting $2 million for the National Advanced Driving Simulator in fiscal year 1994. The fiscal year 1994 program envisions the initiation of fabrication, testing and validation of the simulator. We are managing the simulator program in accordance with congressional guidance. Funds for construction will be obligated only when the full $11 million in non-DOT contributions are obtained. The University of Iowa has already pledged $5.25 million in support, and we have signed a cooperative agreement that initiates the University's actions to secure the balance of $5.75 million.

GRANT PROGRAMS

A large portion of the agency's program includes direct grants to help States improve their highway safety programs. Total funding of $177 million is requested for Highway Traffic Safety Grants in 1994. This includes $123 million for Section 402 Highway Safety Grants. Section 402 is the cornerstone of the Federal-State partnership for highway safety. It focuses exclusively on the most serious national problems, such as alcohol, speeding and safety belts, and operates in a manner which permits States to tailor programs to their specific needs. Section 402 grants facilitate State introduction of new countermeasures developed by NHTSA with Section 403 funds. The balance of the grant request totals $54 million and will be allocated as follows: $10.5 million for Section 408 Alcohol Safety Incentive Grants; $25 million for Section 410 Impaired-Driving Countermeasures Incentive Grants; $15 million for Section 153 Safety Belt and Motorcycle Helmet Use Incentive Grants; and $3.5 million for the National Driver Register.

Mr. Chairman, this concludes my summary of the Fiscal Year 1994 program and budget. We would be pleased to answer your questions.

Mr. CARR. Thank you, Mr. Smolkin.

[The prepared statement and biography of Mr. Smolkin follow:]

STATEMENT OF HOWARD SMOLKIN
ACTING ADMINISTRATOR
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
BEFORE THE TRANSPORTATION Subcommittee
OF THE
COMMITTEE ON APPROPRIATIONS
UNITED STATES HOUSE OF REPRESENTATIVES
APRIL 28, 1993

Mr. Chairman and Members of the Subcommittee:

It is a pleasure to appear before you today to discuss the President's FY 1994 budget proposal for the National Highway Traffic Safety Administration (NHTSA). Accompanying me, to assist in responding to your questions, seated to my right are: Barry Felrice, Associate Administrator for Rulemaking; Bill Boehly, Associate Administrator for Enforcement; and George Parker, Associate Administrator for Research and Development. Seated to my left are: Don Bischoff, Associate Administrator for Plans and Policy; Adele Derby, Associate Administrator for Regional Operations; and Mike Brownlee, Associate Administrator for Traffic Safety Programs.

Introduction

Mr. Chairman, NHTSA's mission is to help reduce crashes, deaths and injuries, and their related personal and economic costs. Our proposals for FY 1994 continue these efforts and include both driver and vehicle safety initiatives. I am very pleased to say that last year's motor vehicle death toll declined to the lowest level since 1962. The estimated 39,200 fatalities reported for 1992 were 5 percent below the 41,462 deaths in 1991, and sharply lower than the 1990, figure of 44,599. The resulting fatality rate was at an historic low in 1992, falling to 1.8 deaths per 100 million vehicle miles traveled (VMT).

Nevertheless, vehicle crashes still constitute more than 90 percent of transportation-related fatalities in this country. Vehicle crashes remain the number one cause of death for persons aged 5-32 and the biggest cause of serious injuries. This is not only a staggering economic problem but a public health problem of serious dimensions. The medical cost of motor vehicle crash injuries is conservatively estimated to be $14.4 billion annually. Nearly thirty percent of these costs, over $4 billion dollars, are paid by medicare and medicaid.

If we are able to reduce these costs, as we believe we can through improved highway safety programs, the resulting savings would be reflected directly in the form of reduced taxes to support medicare and medicaid programs. Also, because health care costs are increasing at more than twice the overall rate of inflation, by holding these costs at their current levels, we can reduce annual health care costs by over $1 billion annually. Reductions in death and injury from motor vehicle crashes would not only help to contain health care costs and reduce the tax load needed to support the government health care system, but also would reduce time lost from work, lower public assistance payments for injury victims and their families, and diminish personal suffering.

In economic terms, NHTSA estimates that highway crashes produce a loss to our society in excess of $137 billion annually in medical costs, lost productivity, property damage and other direct expenses. To provide perspective, $137 billion is two percent of the Gross Domestic Product.

The agency's FY 1994 program is designed to start down the road toward meeting the Secretary's goals to reduce the costs of these motor vehicle-related injuries to the nation. NHTSA has developed goals for reducing these costs by establishing safety belt and drunk driving goals and making other highway safety improvements, and by achieving state-of-the-art crashworthiness and crash avoidance technology -- with special emphasis on Intelligent Vehicle Highway Systems (IVHS) -- in the new vehicle fleet.

NHTSA and the highway safety community have a solid record of achievement. In the last 10 years alone safety belt use has increased by 50 percent and the proportion of alcohol-related deaths are down by 11 percent. We strongly believe that our programs are major factors in future efforts to reduce health care costs, contain business costs, and reduce taxes.

Today, I will briefly review NHTSA's FY 1994 budget request and highlight some of our recent accomplishments and planned initiatives. I will then be pleased to answer your questions.

The Budget Request

NHTSA's FY 1994 budget request is closely tied to the priority plan and totals $307 million (in appropriations and obligation limitations). Of this total, $130 million is requested for operations and research, and an additional $177 million, including $32 million as part of the Administration's investment proposal, would fund grants to states to promote improvements in traffic safety. The total proposed appropriation represents a $37 million increase or 14 percent above the FY 1993 enacted level, and almost all of the increases would be provided to the states within the scope of our Highway Safety grants program.

Budget Highlights:

The $130 million requested for the Operations and Research program would be focused on meeting legislative requirements and responding to critical national traffic safety problems. The FY 1994 program includes among its initiatives the following:

- Completion of final rulemaking decisions that implement the vehicle safety regulatory agenda mandated by the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991, including requirements to improve occupant safety in all types of passenger vehicles in frontal, side impact and rollover crashes.

- Phasing in the upgrade of enforcement compliance tests to ensure that motorists receive increases in safety benefits intended from the higher performance requirements stated in new regulations, such as automatic occupant protection and upgraded side impact protection on all passenger vehicles.

- Concentrating crashworthiness research involving safety system performance and biomechanics on remaining and newly identified opportunities to reduce deaths and injuries to occupants involved in crashes. A major portion of the program would attempt to identify the vehicle and restraint system improvements that can be applied to reduce the 10,000 fatalities and 120,000 moderate to serious injuries, including lower extremity injuries, that are projected after the full implementation of driver and passenger air bags.

- Providing the critical safety focus to the DOT Intelligent Vehicle Highway Systems (IVHS) program by facilitating development and early deployment by industry of systems to assist drivers in avoiding crashes and leading the safety evaluation of DOT operational tests, including the Automated Highway System initiative.

- Moving the National Advanced Driving Simulator (NADS) into fabrication, test and validation phase, supported in part by $11 million in non-DOT cost sharing which includes $5.2 million from the University of Iowa, the simulator host site. The remaining $5.8 million will be secured by the University of Iowa from other sources.

- Providing a multi-faceted strategy to help states improve alcohol safety to reach our goal of 43 percent alcohol-related fatalities by 1997. Enforcement of underage drinking laws and programs to keep DWI repeat offenders off the roads would be stressed. NHTSA would focus on model community programs, training for police and courts, provisional driving licenses for youth, and public information targeted on specific high-risk groups.

- Assisting states in a follow-on campaign to the "70% by '92" Program, in order to achieve the agency's new national safety belt goal of 75 percent use by 1997.
- Expanding and enhancing countermeasures and underlying safety research to help police officers enforce against excessive speeds and other unsafe driving behaviors.
- Enhancing the national data collection program on motor vehicle crashes which provides the basis for vehicle regulatory decisions, highway safety countermeasure development, and responses to informational needs from manufacturers, state and local government, other Federal agencies, Congress, the media and the public.

The $177 million obligation limitation proposed for highway safety grants represents an increase of $35.4 million over the FY 1993 enacted level. This funding would assist states in solving their critical highway safety problems:

- $123 million for Section 402 State and Community Highway Safety Grants to implement state and local programs to reduce highway deaths and injuries through increasing use of occupant protection devices, reducing impaired driving, increasing enforcement of traffic laws particularly speed limits, improving emergency medical services and implementing other proven countermeasures.
- $10.5 million for Section 408 Alcohol Incentive Grants and
- $25 million for the newer Section 410 Alcohol-Impaired Driving Countermeasures.

  Both of these alcohol incentive grant programs would enable the state grant recipients to devote intensive resources to enforcement, education and public information programs designed to reduce alcohol and drug impaired driving.

- $15 million for Section 153 Safety Belt and Motorcycle Helmet Use Incentive Grants which would be awarded to qualifying states to educate the public about safety belts, child safety seats and motorcycle helmets and to support enforcement of usage laws.

- o $3.5 million for the National Driver Register to provide maintenance of the register and continue state conversion to a system focused on identifying problem drivers.

Strategic Planning

NHTSA is committed to ensuring that its resources are used as effectively and efficiently as possible. At the end of 1992, the agency issued its third annual priority plan, Moving America Safely, NHTSA's Activities Through 1994. This plan provides an outline of the activities NHTSA is currently pursuing.

The agency has initiated strategic planning to enhance longer term, future policy making and resource management. Strategic planning provides a mechanism for stimulating and implementing change in the agency based on detailed analyses of possible future conditions. In a June 1992, Federal Register notice the agency solicited the public's input on the strategic planning initiative. Well over 100 organizations and citizens submitted comments in response to the notice. These comments are being reviewed and will play an important part in helping NHTSA establish future goals for traffic and motor vehicle safety programs, and in improving the relationship and service to the general public, state and local governments, industry, and other interested organizations.

Motor Vehicle Rulemaking

The FY 1994 budget proposal of $4 million for the rulemaking program would provide funding for: Vehicle Safety Standards; the New Car Assessment Program (NCAP), Fuel Economy, Theft and other Consumer Programs.

NHTSA issued 93 rulemaking notices in 1992, which is the third highest number in the agency's history. This is 37 percent higher than the average of 68 for the period 1976-1989. ISTEA required the agency to initiate rulemakings in a number of areas. The agency met the Act's requirements by issuing advanced notices of proposed rulemakings (ANPRM's) on: rollover protection; dynamic side impact testing of light trucks, child booster seats; ABS requirements for heavy duty trucks, buses, and trailers; and seat belt design. The agency also published NPRM's to mandate full-front air bags and to reduce head injuries. Rulemaking on ABS for passenger cars is scheduled to be initiated in 1993 as required by ISTEA.

In addition, during 1992, final rules were published on: automatic brake adjusters for heavy trucks; heavy truck conspicuity; upgrades for school bus mirrors and emergency exits; and protection against siphoning of vehicles powered by methanol. During the first quarter of this year, the agency published final rules to upgrade seating in school buses used by handicapped students. NHTSA also has sought public comment on safety issues relating to the use of alternative fuels through the publication of proposals addressing compressed natural gas (CNG) fueled-vehicles and electric vehicles. In addition, rulemaking has been initiated to provide assurance that wheelchair lifts operate safely; to upgrade the agency's school bus joint strength standard; to reinstate stopping distance requirements for heavy trucks and buses; and to provide rear underride protection guards for truck trailers. Final rules have recently been issued that require registration of child safety seats and for fuel economy standards for light trucks for model year 1995.

One of the conclusions of the April 1992, National Academy of Sciences (NAS) study of the potential to improve fuel economy was that government agencies have little information on the costs and performance of fuel economy technologies and on developments in the automotive industry in general. NHTSA is requesting approximately $1 million for the fuel economy program to respond to the above concerns. The programs would provide crucial information to aid in decisions on the future of the CAFE program.

New Car Assessment Program (NCAP)

NCAP funding is proposed at $2.5 million and would provide funding to assess the frontal crashworthiness of 39 vehicles. More than 400 vehicles have been tested in NCAP since 1979. Vehicles are tested by being crashed at 35 mph into a rigid barrier. The resulting data measuring the potential safety performance of the vehicles is then widely disseminated. This data is provided to the media and consumers through regular press releases and NHTSA Hotline calls. The model year 1993 program, which tested 37 vehicles, proceeded at a record pace which afforded potential car purchasers more opportunity to review this information prior to making a selection. The agency also plans to initiate a side impact NCAP in FY 1994, testing 15 vehicles. Funding of $600 thousand would be used to conduct these tests.

In an effort to improve the presentation, distribution and usefulness of NCAP data, NHTSA is conducting consumer and media surveys on the subject. Reports resulting from these studies will be provided to the Subcommittee in the fall of this year.

Vehicle Safety Enforcement Activities

We are requesting $8.5 million for the Enforcement Program to provide funding for Vehicle Safety Compliance, Defect and Odometer Fraud investigations. This represents an increase of $548 thousand in Vehicle Compliance and $875 thousand in Defects Investigation compared to the FY 1993 enacted level. Funding for Odometer Fraud remains constant at $100 thousand. NHTSA's

Enforcement Program has the vital responsibility of making certain that the public enjoys the safety benefits of the Federal Motor Vehicle Safety Standards (FMVSS). Enforcement actions ensure that motor vehicles and equipment are tested to the performance requirements established in the safety standards and that potential safety-related defects are investigated. When noncompliances or defects are found, the agency moves toward obtaining a recall.

During 1992, there were 15 recall campaigns involving 1.8 million vehicles recalled for safety belt defects. In addition, 2.6 million child safety seats were recalled in 1992. The agency's work to remove unsafe vehicles from the nation's roads continues to be a critical component of the efforts to reduce the fatality rate. In 1992, a total of 156 safety defect recall campaigns involving 9 million vehicles were conducted. Furthermore, there were 31 recall campaigns involving another 1.1 million vehicles for noncompliance with safety standards. Of the total 10.1 million vehicles recalled, 69 percent, or 7 million, were influenced by NHTSA's enforcement investigations.

In 1992, 88 percent of the defect investigations were initiated based on Hotline calls. Last year more than 563,000 consumer calls were processed by the NHTSA Hotline. We are seeking an additional $325 thousand to improve the Hotline and $550 thousand to increase support for our defect investigations. The Hotline is NHTSA's principal conduit to the motoring public. The additional funding would be used to increase our ability to handle more consumer calls and further enhance our partnership with consumers. The $550 thousand would provide resources for more testing to support our defect investigations. The increase in testing capacity would allow us to more quickly determine if a defect exists and whether a recall is warranted. This would assist highway safety by expeditiously identifying and removing unsafe vehicles from the road.

In 1994, a significant addition to NHTSA's safety standards compliance program will be the testing of vehicles for compliance to Standard No. 214, Side Impact Protection. This standard becomes effective for 10 percent of a manufacturer's passenger fleet on September 1, 1993. Additional phase-in of this requirement would occur in subsequent years. We also are requesting an additional $548 thousand for Vehicle Safety Compliance to conduct 15 crash tests to assess compliance to this new safety standard. These tests would identify any noncomplying vehicle and remove them from the road.

NHTSA's odometer fraud program was responsible for 20 investigations and obtained 16 criminal convictions in 1992. Since 1980, 152 convictions have been obtained in 153 cases. The Truth in Mileage Act of 1986 requires that sellers disclose accurate mileage readings on vehicle titles. States conduct investigations, recover funds for defrauded consumers, and conduct public awareness programs. Since the inception of the program which established contracts to states, those states have: conducted 1,680 investigations; collected more than $387 thousand for defrauded consumers; and presented seven statewide consumer awareness programs.

Highway Safety Activities

The Highway Safety Program budget is proposed at $24.8 million and would provide critical funding for: Alcohol, Drug and State Programs; National Occupant Protection Program; Enforcement and Emergency Services; Highway Safety Research and State Motor Vehicle Services. The primary objective of NHTSA's highway safety program is to reduce crashes, prevent injuries and save lives, by improving human behavior. Numerous crash causation studies have shown that driver related factors account for 90 percent of crashes. An effective highway safety program is key to reducing both crashes and costs.

Alcohol and Drugs

Mr. Chairman, Secretary Peña has focused the agency's attention on a 4-year traffic safety program to reduce alcohol-related fatalities to 43 percent and to increase safety belt use to 75 percent. These two programs alone would save nearly 4,000 additional lives per year when the goals are met and save nearly $3 billion in out-of-pocket costs due to fatality reductions alone. The agency is currently investigating how to address these goals within a single, national emphasis program. The FY 1994 budget proposal for the alcohol and drug portion of this integrated program is $10.5 million. This funding would enable the agency to work through states, communities, employers, and national organizations to: enact key impaired driving legislation; publicize and enforce these laws vigorously to apply swift and sure sanctions to offenders; and educate the public on drinking and driving issues. This effort would combine effective anti-DWI and safety belt use efforts wherever possible to reach these two goals. It is expected that the program would focus on quality public information and education programs, more effective laws, and stricter enforcement efforts. NHTSA would work together with the states and major highway safety organizations to develop this multi-year effort which is expected to be an agency centerpiece for the next four years.

NHTSA encourages states to enact administrative license revocation laws, make it illegal to drive with a blood alcohol concentration level of .08, and establish zero alcohol tolerance laws for persons under age 21. All three laws are part of the agency's Priority Plan and also are criteria in the Section 410 state alcohol incentive grant program. Moreover, special emphasis would be devoted to young drivers. The agency concurs with the National Transportation Safety Board's recent findings that increased attention to youthful drinking and driving would reduce casualties substantially.

NHTSA plans an expansion of it's public information activities with the Ad Council. Specific target populations would be selected by using methods developed in the agency's research program. The agency also anticipates continuing with public and private sector colleagues in the Techniques for Effective Alcohol Management (TEAM) coalition -- Major League Baseball, the National Basketball League, the National Football League, the National Hockey League, the National Collegiate Athletic Association, CBS, the National Association of Broadcasters, and others -- to produce and broadcast impaired driving and underage alcohol use messages directed at high school and college youth as well as older sports fans.

The Drug Evaluation and Classification (DEC) program is moving rapidly to full institutionalization. Experienced DEC states are beginning to assume management of their own DEC activities. NHTSA's FY 1994 budget proposal for DEC ($4 million) would fully implement the agency's plan to regionalize the delivery of DEC training. The agency would also assist the states by providing the necessary laboratory support for the training. The agency intends to expand the national public information program to educate the public on the dangers of driving while impaired by drugs. Most importantly, NHTSA would accelerate research to streamline and improve the DEC evaluation and shorten the training needed to qualify a DEC officer.

Occupant Crash Protection

In the area of occupant protection, the program request totals $5.8 million that would be used to continue with the agency's primary strategy for increasing seat belt usage. That strategy is to encourage states to enact and enforce laws requiring safety belt and child safety seat usage. To date, 44 states, the District of Columbia, Puerto Rico and the U.S. Territories have enacted such laws. All 50 states and the Territories have enacted child passenger protection laws. As a result, seat belt usage increased from about 14 percent to nearly 50 percent from 1980 to 1990. During 1991-92, NHTSA implemented a national program to encourage states and localities to conduct combined seat belt enforcement and public education programs. Because of these efforts and the expanded enforcement and media activities, the national safety belt usage rate reached 62 percent at the end of 1992 with several states reporting belt use exceeding 70 percent.

To respond to the Secretary's new traffic safety program goals to reduce alcohol-related fatalities, enforcement and public awareness activities would focus on both impaired driving and occupant protection. These activities include: providing support for states to upgrade their safety belt and child passenger protection laws; efforts to increase the proper use of child passenger protection devices; and educating the public on how air bags work in conjunction with safety belts.

Speed Enforcement

For the critical area of speed enforcement we are requesting $1,013 thousand. These funds would be used to emphasize several major program areas: assisting national enforcement efforts including, providing advanced enforcement technologies, public information and education, demonstration projects, research and technical assistance. Research on the problem of speed would focus on conducting in-depth crash investigations to determine the degree to which speed contributes to crash causation, and to determine under what circumstances (i.e., when and where) speeding is most likely to increase crash risk. The research program on speed would help the agency to better understand the problem and how to attack it. A nationwide driver survey would also be initiated to assess driver perceptions, attitudes, and motivations regarding speed. Subsequent research would use this information to develop effective and more focused enforcement programs. Speed enforcement remains a high priority issue and it is estimated that speed-related crashes cost society in excess of $10 billion per year. The agency is required by ISTEA to develop two significant rules pertinent to speed: to make speed a priority highway safety program; and to develop a compliance formula and monitoring plan for national maximum speed limit highways. In 1990, approximately 34 percent of all fatal crashes were speed related. Of all crashes reported to the police, about 12 percent cite speed as a contributing factor.

Emergency Medical Services

The agency is seeking $978 thousand for the Emergency Medical Services (EMS) program. The efforts of the EMS program, which contributes to reducing the number of fatalities and serious injuries that result from highway crashes, directly affect the cost of health care. It is essential to continue assisting states in developing and enhancing comprehensive and integrated EMS and trauma systems, given that such systems can reduce preventable mortality by 20-30 percent and return over 95 percent of the serious traumatically-injured patients to normal, productive lives. These funds would enable NHTSA to continue to facilitate technical assessments of state EMS systems and provide technical assistance to states which focus on specific problems identified through these assessments, including activities that promote public information and education and the development of trauma systems. These funds also would permit NHTSA to continue its curriculum development efforts and its activities which focus on improving EMS in rural areas and pay particular attention to target populations, including native Americans.

Motorcycle Safety

Motorcycle riding continues to be one of this nation's most hazardous forms of transportation. Proper licensing and use of motorcycle helmets are two areas of program emphasis. A contract program level of $350 thousand is required to address the safety problems inherent in this area. The agency's strategy is to urge all states to require a separate motorcycle license endorsement; assist the police in their enforcement of licensing requirements; publicize licensing requirements to all motorcyclists, and assist states in implementing their licensing programs. These strategies would be accomplished through a national campaign that is scheduled to begin in late FY 1993 and continue through FY 1994. All of the major motorcycle safety organizations, motor vehicle and police departments, insurance companies, and motorcycle enthusiast organizations are participating in this campaign.

Pedestrian and Bicycle Safety

Crashes involving pedestrians make up about 15% of each year's traffic fatality totals. Recent rulemaking in the Section 402 formula grant program added pedestrian and bicycle safety as National Priority program areas. NHTSA proposes funding of $428 thousand to implement major initiatives in pedestrian safety which would be accomplished through a joint program with the Federal Highway Administration (FHWA). The goal of this program is to encourage the states and communities to incorporate research-based pedestrian safety countermeasures within existing community traffic safety programs.

Recent data indicate that seventy-five percent of bicycle crashes result in head injuries. The use of bicycle helmets can mitigate up to 85% of those head injuries. The FY 1994 program would focus on a new national initiative to promote the use of bicycle helmets. The agency also plans to promote educational material for distribution through a coalition of bicycle manufacturers, associations, user groups, dealers and injury prevention organizations.

Younger and Older Drivers

In March 1993, the agency sent a report to this Subcommittee that outlines the agency's research agenda for "Addressing the Safety Issues Related to Younger and Older Drivers." This report revealed that although drivers of these two age groups are over-represented in fatalities per mile driven, the number of crashes and fatalities involving younger drivers far outnumber those of older drivers. Current research on younger drivers focuses on understanding and controlling their propensity for engaging in high-risk behaviors. NHTSA's research on older drivers would require $450 thousand to focus on four major areas: to provide assistance to the majority of older persons who already limit their driving to accommodate changing capacities; to develop procedures to identify drivers who do not self-limit their driving when conditions warrant and to regulate their driving under those circumstances; to improve the crashworthiness of vehicles to accommodate occupant frailties in drivers over the age of 75; and to employ advanced vehicle technologies to compensate for the declining capabilities of older drivers.

Traffic Records

ISTEA established several traffic data and reporting requirements that would have a significant impact on state records systems. These include the Safety Management System Requirement for linking the data systems of all agencies within a state that are involved in highway safety, and the requirement for uniform reporting of traffic fatalities. NHTSA is planning to offer implementation grants through each of our regions to assist them in determining the upgrades needed to meet these new requirements and for adopting the Critical Automated Data Reporting Elements (CADRE) data elements.

Research Activities

Mr. Chairman, the agency seeks $40.6 million for the Research and Analysis Program to maintain and further enhance our scientific basis for future reductions in motor vehicle crash losses. This research component consists of: broadly based research and development; data acquisition, and analysis programs. These activities are designed to support those motor vehicle areas that show the greatest promise for avoiding crashes, reducing injuries, and saving lives.

National Advanced Driving Simulator (NADS)

Our National Advanced Driving Simulator continues to progress toward construction. We are requesting $2 million in FY 1994 for fabrication, test, and validation activities. The NADS would be an important tool for furthering NHTSA's understanding of human factors in traffic safety and for supporting the development and evaluation of IVHS. The NADS also would permit the agency to safely conduct the necessary evaluations of how drivers react when confronted with a hazardous situation. Because human error is a major contributing factor in over 90 percent of today's crashes, the NADS is expected to make a significant contribution to highway safety.

The NADS would exploit America's leadership in advanced simulation technologies from the nation's military and space programs. NHTSA and the University of Iowa signed a cooperative agreement on March 15, 1993, that defines their respective responsibilities during the design, development, construction, and operation of the NADS. The University of Iowa is now in a position to secure the $5.8 million in additional funding needed to satisfy the one-third non-DOT contribution requirement. The Request for Proposals for the NADS design concept studies is currently available for industry comment. The agency expects that a contract will be awarded this year.

Intelligent Vehicle Highway Systems (IVHS)

NHTSA's FY 1994 budget proposal for IVHS is $7.5 million. This funding would support the agency's efforts to foster the development and early deployment of cost-effective, user-friendly collision avoidance products. Collision avoidance IVHS applications would assist drivers to overcome lapses in their recognition and performance that cause up to 90 percent of all collisions. Collision avoidance IVHS applications have the best potential the agency has ever identified to reduce the number of collisions occurring on the Nation's highways. Preliminary estimates of the effectiveness of some collision avoidance IVHS systems are as high as 50 percent.

NHTSA's program provides the critical safety focus to the DOT IVHS program activities. Agency R&D, working cooperatively with the private sector, would facilitate development and early deployment by industry of systems to assist drivers in avoiding collisions and would lead the safety evaluations of the DOT operational tests. The agency's near term focus is on systems that are self-contained on the vehicle. Enhanced capabilities that may be possible with highway communication networks and other highway IVHS infrastructure would be explored in future phases of the program. In June 1992, the agency submitted the 5-year IVHS safety research plan requested by this Subcommittee. The research plan outlined the strategies, activities, and milestones for providing vehicle engineering and human factors research. This research is necessary to achieve the potential safety benefits promised by IVHS.

Also, a principal component of the agency's program is the development of engineering and human factors performance guidelines. The guidelines would serve as product design targets for the private sector and provide the agency with the basis for conducting safety impact evaluations. FHWA's budget request includes an additional $9 million, which is $7 million above the $2 million provided in FY 1993, to ensure that NHTSA vehicle and system safety projects critical to the success of FHWA operational tests and the automated highway system initiative are adequately supported.

Heavy Vehicles

FY 1994 funding of $1.1 million is proposed for heavy vehicle activities to allow the agency to continue programs to address critical truck safety programs. Each year nearly 10 percent of vehicle-related fatalities occur in crashes involving heavy trucks. The research in this program area seeks to involve the industry in developing cost-effective solutions to safety problems. With standardized test procedures developed under cooperative government-industry work, the traction properties of typical truck tires would be defined. This is essential so that the contribution tires make to overall dynamic stability performance can be assessed. To reduce the number of truck occupants killed each year in crashes, the agency would continue cooperative efforts to assess interior truck components and cab structures.

Safety Systems

The $7.1 million request for vehicle and component development would allow the agency to continue its progress to establish a technical basis for formulation of crashworthiness policies and regulations. It also provides development of occupant protection technologies to prevent fatalities and injuries in vehicle crashes. There has been much progress made in improving vehicle structures and occupant restraint systems to reduce the number of deaths and injuries from vehicle crashes.

Nevertheless, the agency's continuing study of the data it collects from crashes occurring on the Nation's roads allows verification of continuing opportunities and identification of new problems. Frontal, side, and rollover crashes still account for a large number of deaths and injuries to occupants of passenger cars and light trucks and vans. For example, after the full implementation of driver and passenger air bags, there is still the possibility of 10,000 fatalities and 120,000 moderate to serious injuries in crashes. Crash injuries result from occupant impacts with the various vehicle interior surfaces and from ejections through door and window areas.

The crashworthiness safety system research program includes projects on side impact protection, rollover protection, ejection protection, and restraint system improvement, including child restraints. A major thrust of the program is to study the feasibility of upgrading frontal crash protection. This program would address fatalities and injuries including lower extremity injuries that would occur in frontal crashes even after full implementation of driver and passenger air bags.

Biomechanics

The funding request for Biomechanics is $5 million which would maintain the level of research and development in this area considered as the cornerstone upon which many of NHTSA's safety initiatives and regulations are based. In order to study or require improved performance of vehicles in crashes, it is necessary to understand the injury mechanisms to humans in crashes and human injury tolerance levels. It is also necessary to be able to measure these in simulated crashes with the use of human surrogates.

Biomechanics research would aggressively pursue efforts in four major areas; (a) detailed, hospital based, crash and outcome studies documenting and relating crash circumstances with injuries, (b) experimental efforts seeking to understand the mechanisms of injury in vital areas of the body such as the head, neck, and torso, (c) mathematical efforts to model the human in crash situations and predict both the extent and severity of expected injuries, and (d) design efforts seeking to develop new dummy components that both more accurately mimic the human in a crash and are able to better predict both the extent and severity of expected injuries. All these efforts are applying the theories, methods, and practices of engineering to the study, quantification, control, and prevention of injuries in the automotive crash environment.

National Center for Statistics and Analysis (NCSA)

The $17.9 million requested for NCSA would continue large scale, automated data bases to support problem identification, program planning and program evaluation. The agency uses this information to support motor vehicle research and development and highway safety programs and policy. This data also is the primary source of information on motor vehicle and highway safety for other DOT modes, especially FHWA. The automobile manufacturing and insurance industries, state and local governments, and consumers all benefit from the data produced by NHTSA's NCSA program.

The NCSA data sets are continually being revised to meet changing highway safety needs. New information is being collected by the Fatal Accident Reporting System (FARS) and National Accident Sampling System (NASS) data systems to support increased agency activities in crash avoidance especially related to IVHS activities. The NASS Crashworthiness System has been reconfigured to be more efficient in collecting crash information by eliminating a layer of contractor management. Plans are being developed to collect information on pedestrian involved crashes and speed related crashes to support agency programs in these areas. Work with the states to improve their crash data systems with activities like the Critical Automated Data Reporting Elements (CADRE) program is moving ahead as planned. Initial results of the Crash Outcome Data Evaluation System (CODES) program that was authorized by ISTEA are very promising. Successful linkage of crash and other traffic records systems with emergency treatment and hospital based data would prove to be of critical importance to the future of highway safety.

Highway Traffic Safety Grants

The proposed obligation limitation for the grant program is $177 million, including $32 million as part of the Administration's investment proposals, which is an increase of $35 million over the FY 1993 enacted level.

The budget proposes $123 million for NHTSA's largest grant program, the Section 402 state and community formula grant program. This represents an increase of $8 million over the level provided for FY 1993. The goal of the Section 402 program is to provide Federal leadership, encouragement and technical assistance to all states in their efforts to develop and implement the most effective highway safety programs in their jurisdictions. To encourage and acknowledge especially noteworthy state activities, NHTSA is initiating the "Administrator's Highway Safety Programs of Excellence" awards to recognize and document the truly outstanding highway safety accomplishments in states and communities that have been made possible through the Section 402 program. The fourteen first-year winners of the award have been selected, and we have documented these projects in a report which has been delivered to the Committee.

The budget also proposes funding for several very important incentive grant programs. An obligation level of $15 million is proposed for the Section 153 Safety Belt and Motorcycle Helmet Use Incentive Grant Program. This program has been instrumental in promoting a significant amount of safety belt and motorcycle helmet legislative activity in the states. Since the enactment of Section 153, 17 safety belt or motorcycle helmet bills were introduced in FY 1992 and 22 bills have been introduced thus far in FY 1993. Four states have enacted new safety belt or motorcycle helmet laws since the inception of the program: safety belt laws in Nebraska, North Dakota, and West Virginia and a Motorcycle Helmet Law in Maryland.

Obligation levels of $25 million for Section 410 and $10.5 million for Section 408 Alcohol Safety Incentive Grants are proposed. These incentive grants also have been very influential in encouraging states to pass strong legislation to deal with their drunk and drugged driving problems. Since the beginning of 1992 alone, 4 states have passed Administrative License Revocation (ALR) laws, 4 states have passed .08 BAC laws, and 3 states have passed zero tolerance laws for under-age 21 drivers. These measures are all key criteria for qualifying for NHTSA's alcohol incentive grants.

As a result of significant effort, during FY 1992 the agency was able to award Section 153 grants to nineteen states (including the District of Columbia and Puerto Rico), and to award Section 410 grants to seventeen states under the "new" program as well as to two additional states under the "old 410" program. To continue progress made under these programs, NHTSA proposes to increase funding during FY 1994. Funding for the older Section 408 Alcohol Safety Incentive Grant Program would decline slightly from FY 1993 to FY 1994, while most of the remaining authorized funding level would be used.

National Driver Register

The FY 1994 funding request for the National Driver Register (NDR) is $3.5 million. All 50 states and the District of Columbia have formally indicated their intent to participate in the new Problem Driver Pointer System (PDPS). The agency is in the process of awarding grants to each state to assist in their conversion operation. Shortly, all NDR system programming changes would be completed and the first states would begin testing in June. NHTSA expects to have 12 to 15 states operational by the end of 1993 and all states fully operational by April 1995.

Mr. Chairman, this concludes my statement. We will be pleased to answer any questions you may have about our FY 1994 budget proposal and the programs being funded.

U.S. Department
of Transportation

**National Highway
Traffic Safety
Administration**

400 Seventh Street, S.W.
Washington, D.C. 20590

HOWARD M. SMOLKIN

Howard M. Smolkin is the Executive Director of the National Highway Traffic Safety Administration. He joined NHTSA in 1984.

Mr. Smolkin has been with the Federal Government for over 25 years. Prior to his employment with NHTSA, Mr. Smolkin was with the Office of Management and Budget. From the mid-70's until 1984, Mr. Smolkin served as the Office of Management and Budget's Deputy Associate Director for Special Studies in Economics and Government. He began his Federal career in the Foreign Service of the Agency for International Development and has also worked for the Environmental Protection Agency and the Federal Energy Office.

A native Washingtonian, Mr. Smolkin holds a Bachelor of Science degree from the University of Maryland and a Masters in Public Administration from Princeton University's Woodrow Wilson School of Public and International Affairs.

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ADMINISTRATOR APPOINTMENT

Mr. CARR. The first question I have is when are we going to have an administrator?

Mr. SMOLKIN. Mr. Chairman, that is an excellent question and one that my wife asks me frequently.

Mr. CARR. Not that we are not happy to have you here.

Mr. SMOLKIN. So far, we have not been advised of when appointment of a new administrator will take place.

Mr. CARR. Are you aware of whether the Secretary has sent a name to the White House?

Mr. SMOLKIN. The automotive press has indicated that a name has been sent to the White House. The Secretary has not said anything about whether he has sent a name forward.

Mr. CARR. Do you have any idea whether this is the first name he has sent to the White House or the second or the third?

Mr. SMOLKIN. I have no idea.

Mr. CARR. Of course, it is not your problem. You and your colleagues are ably shepherding the agency through a period when it is without its normal political leadership.

We just had two days of testimony from the Acting Administrator of the FAA, and last week we had another day of testimony from the Acting Administrator of the FAA, and we had a day's worth of testimony from the Acting Administrator of FHWA, and soon we are going to have the Acting Administrators of FTA and FRA—all able civil servants.

But I have to say on the record that now that we have passed the 100-day mark in the new administration, an administration which actually began to have the moral authority to lead on November 4th of 1992, it is really getting to the point where these delayed appointments are testing the patience of some of us on Capitol Hill who have a major responsibility to interact responsibly with the agencies. I am sure you feel frustrated as well.

The fact is that we have a Department of Transportation with so many responsibilities and so much going on. Even though it is ably led by a Secretary who I think will do an outstanding job, so far as I know, he only has one person who has the political authority besides himself inside the agency. Has Mr. Kaplan been confirmed?

Mr. SMOLKIN. No, sir, he has not.

Mr. CARR. So, in point of fact, there is only one confirmed political appointee. And, given all that is going on in transportation, given all that this administration put forward as its priorities in transportation, and given the fires of ambition in the transportation infrastructure area that this administration lit during the campaign, I think it is getting to a point of being not only a serious operational problem but a very, very serious leadership problem from the standpoint of moving this country forward.

I just simply can't understand why the administration is being so slow about things. It is almost as if they can't find anybody qualified. And we know that that is simply not the case.

So, like I say, it is a credit to you and your colleagues and your colleagues in the other parts of the Department that you are doing a great job. I think it is a great strength of this country that we have a civil service that is as strong, as able as it is to go through these types of times. But I just wanted to put on the record my feelings that at 100 days so little has been done in the way of appointments in the Department of Transportation that it is really testing the goodwill of the Congress. I think it is imposing tremendous, tremendous limitations on us.

Having said that, I recognize the gentleman from Texas, if he has any opening remarks before we move to questions.

Mr. COLEMAN. No, I didn't, Mr. Chairman, but thank you.

FATALITY STATISTICS

Mr. CARR. Mr. Smolkin, just let me engage you in a little discussion about—and this may be a philosophical discussion—the statistics that the agency gives us every year on how we are doing in highway safety. Performance measures are really very important. They are very important to this subcommittee. We want to continue receiving them.

Your statement includes hope and progress and then some words of challenge. In 1992, there were 1.8 fatalities per 100 million miles. What is the historic high?

Mr. SMOLKIN. The historic high? George, can you tell us? Just in 1982 we were at 2.8, but——

Mr. PARKER. I don't know if I can give you the absolute high, but I remember in the 1960s and early 1970s it was up around 5.5. We can provide for the record what the historic high was, but I do remember that number.

Mr. CARR. I would like you to supply this for the record. I would love to have in the committee report where we have been in terms of highway fatalities.

[The information follows:]

NHTSA has estimates of traffic fatalities beginning in 1899, based on data from the National Center for Health Statistics and state accident summaries. beginning in 1975, NHTSA's Fatal Accident Reporting System began operations. Data on vehicle miles traveled is reported as far back as 1921.

Based on available information, the historical high fatality rate was 24.1 deaths per 100 million VMT, which occurred in 1921, the first year of VMT data availability. Therefore, this probably was not the actual highest fatality rate.

For more recent times, the fatality rate was 5.5 in 1966. The fatality rate has continued to decline since 1966 to the currently preliminary estimate of 1.8 for 1992.

MOTOR VEHICLE TRAFFIC FATALITIES

YEAR	TOTAL FATALITIES	VMT (Millions)	*FATALITY RATE PER VMT
1899	26		
1900	36		
1901	54		
1902	79		
1903	117		
1904	172		
1905	252		
1906	338		
1907	581		
1908	751		
1909	1,174		
1910	1,599		
1911	2,043		
1912	2,968		
1913	4,079		
1914	4,468		
1915	6,779		
1916	7,766		
1917	9,630		
1918	10,390		
1919	10,896		
1920	12,155		
1921	13,253	55,027	24.1
1922	14,859	67,697	21.9
1923	17,870	84,995	21.0
1924	18,400	104,838	17.6
1925	20,771	122,346	17.0
1926	22,194	140,735	15.8
1927	24,470	158,453	15.4
1928	26,557	172,856	15.4
1929	29,592	197,720	15.0
1930	31,204	206,320	15.1
1931	31,963	216,151	14.8
1932	27,979	200,517	14.0
1933	29,746	200,642	14.8
1934	34,240	215,563	15.9
1935	34,494	228,568	15.1
1936	36,126	252,128	14.3
1937	37,819	270,110	14.0
1938	31,083	271,177	11.5
1939	30,895	285,402	10.8
1940	32,914	302,188	10.9
1941	38,142	333,612	11.4
1942	27,007	268,224	10.1
1943	22,727	208,192	10.9
1944	23,165	212,713	10.9
1945	26,785	250,173	10.7
1946	31,874	340,880	9.4
1947	31,193	370,894	8.4
1948	30,775	397,957	7.7
1949	30,246	424,461	7.1
1950	33,186	458,246	7.2
1951	35,309	491,093	7.2
1952	36,088	513,581	7.0
1953	36,190	544,433	6.6
1954	33,890	561,963	6.0
1955	36,688	605,646	6.1
1956	37,965	627,843	6.0
1957	36,932	647,004	5.7
1958	35,331	664,653	5.3
1959	36,223	700,480	5.2
1960	36,399	718,762	5.1
1961	36,285	737,421	4.9
1962	38,980	766,734	5.1
1963	41,723	805,249	5.2
1964	45,645	846,298	5.4
1965	47,089	887,812	5.3
1966	50,894	925,899	5.5
1967	50,724	964,005	5.3
1968	52,725	1,015,869	5.2
1969	53,543	1,061,791	5.0
1970	52,627	1,109,724	4.7
1971	52,542	1,178,811	4.5
1972	54,589	1,259,786	4.3
1973	54,052	1,313,110	4.1
1974	45,196	1,280,544	3.5
1975	44,525	1,327,664	3.4
1976	45,523	1,402,380	3.2
1977	47,878	1,467,027	3.3
1978	50,331	1,544,704	3.3
1979	51,093	1,529,133	3.3
1980	51,091	1,527,295	3.3
1981	49,301	1,552,803	3.2
1982	43,945	1,595,010	2.8
1983	42,589	1,652,788	2.6
1984	44,257	1,720,269	2.6
1985	43,825	1,774,179	2.5
1986	46,087	1,834,872	2.5
1987	46,390	1,921,204	2.4
1988	47,087	2,025,962	2.3
1989	45,582	2,096,456	2.2
1990	44,599	2,144,362	2.1
1991	41,462	2,172,214	1.9
1992 **	39,200	2,237,380	1.8

Total Fatalities to Date	2,780,276

DEATHS: Traffic Fatalities That Occur Within 30 days of an accident
1899-1974 - National Center for Health Statistics, HEW and State Accident Summaries.
(Adjusted to 30-Day Traffic Deaths).
1975-1992 - National Highway Traffic Safety Administration, Fatal Accident Reporting System (FARS)
VEHICLE MILES OF TRAVEL - Federal Highway Administration - Not Available for Years 1899-1920.
* Per 100 Million Vehicle Miles of Travel (VMT)
** Preliminary Estimate

March 23, 1993

Mr. Carr. You say that highway fatalities are still 90 percent of all transportation fatalities. Could you provide for the record a 20-year comparison of those statistics, too?

[The information follows:]

The available information on total transportation fatalities and motor vehicle fatalities extends back to 1977. Since that time, motor vehicle traffic fatalities have constituted between 90 and 94 percent of total transportation fatalities. The attached table provides the detailed information for the period 1977 through 1991.

Total Transportation Fatalities, Motor Vehicle Traffic Fatalities and Percent of Total 1977 – 1992

Year	Total Transportation Fatalities	Motor Vehicle Traffic Fatalities	Percent
1977	52,945	47,878	90.43
1978	55,047	50,331	91.43
1979	55,788	51,093	91.58
1980	55,372	51,091	92.27
1981	53,346	49,301	92.42
1982	48,182	43,945	91.21
1983	46,477	42,589	91.63
1984	48,143	44,257	91.93
1985	47,861	43,825	91.57
1986	49,552	46,087	93.01
1987	49,954	46,390	92.87
1988	50,516	47,087	93.21
1989	49,098	45,582	92.84
1990	47,681	44,599	93.54
1991	44,436	41,462	93.31
1992	N/A	39,200	N/A

MAJOR CAUSES OF DEATH

Mr. CARR. You say highway fatalities are the fourth leading cause of all deaths. I think you mean all accidental deaths, not the fourth cause of all deaths?

Mr. SMOLKIN. No, it is the fourth leading cause of death. And for the age category most at risk, the young adults, it is a leading cause of death.

Mr. CARR. The fourth leading cause of all deaths. Does that include heart attacks and cancer and everything else?

Mr. FELRICE. I think it is only significantly exceeded by heart disease, cancer and stroke. And then I think pneumonia and auto accidents are at the same level.

Mr. SMOLKIN. The tremendous cost to the society is often underestimated. The recent work that has been done in the Conference on Injury in America highlighted a full range of these costs and showed that the burden that we pay as a result of traffic crashes is really astronomical in this country.

Mr. PARKER. Mr. Chairman, we usually provide for the record for this committee a historical tracking of——

Mr. CARR. Yes, I am looking at that right now. We want all of that updated.

I am still trying to get a little more definition on this fourth leading cause of death. Is that related to a measure of premature death?

Mr. SMOLKIN. No.

Mr. CARR. No? It is just the fourth—how many people died due to heart disease?

Mr. SMOLKIN. Do you have the backup data on that?

Mr. BISCHOFF. No.

Mr. SMOLKIN. We will provide that for the record. A lot of our material comes from the Injury in America database and we will be happy to provide that for you.

[The information follows:]

In 1989 motor vehicle injuries were the fourth leading cause of death. However, in 1990, the latest year for which data are available, an increase in deaths from diabetes mellitus and a decrease in deaths from motor vehicle injuries moved motor vehicle injuries to fifth place. The largest number of deaths in 1990 was from heart diseases, followed by cancer, and pulmonary diseases. It is interesting to note that homicides and AIDS deaths were each less than half of the motor vehicle deaths but have received much greater public interest, and in the case of AIDS, research support of a different order of magnitude than motor vehicle deaths. The number of fatalities (in thousands) and death rates per 100,000 population in 1990, taken from the 1992 edition of "Statistical Abstracts of the United States 1992", are shown on the attached table.

In 1990, motor vehicle injuries were the fourth leading cause of premature death prior to age 65. Cancer, suicide/homicide and heart diseases had greater numbers of premature deaths. The common measure of premature death is Years of Potential Life Lost referenced to age 65. This measure significantly undercounts the importance of diseases of the aged, however, it is the only time series data available. Data for 1990 obtained from the Centers for Disease Control for the leading causes of premature death are shown on the attached table.

MAJOR CAUSES OF DEATH AND DEATH RATES PER 100,000 POPULATION IN 1990

Cause of Death	Rate	Thousands of Fatalities
Major caridovascular diseases	366.9	920.4
Malignancies	201.7	506.0
Pulmonary diseases	66.8	167.6
Diabetes mellitus	19.5	48.8
MOTOR VEHICLE INJURY	*19.1*	*47.9*
Other Injury	18.2	45.7
Suicide	12.3	30.8
Homicide	10.2	25.7
Chronic Liver Diseases	10.2	25.6
HIV Infection	9.6	24.1

Source: Statistical Abstracts of the United States 1992 Table 114 p 82

Note that the number of motor vehicle fatalities in the Statistical Abstract is greater than the NHTSA reported value of 44,599. The NHTSA value is a census of persons who died within 30 days following a motor vehicle crash on public trafficways. The Statistical Abstract value is based on a sample of 10 percent of death certificates and is preliminary.

MAJOR CAUSES OF PREMATURE DEATH IN 1990

Cause of Death	Years Lost*
Malignancies	1,846,719
Suicide/Homicide	1,493,672
Heart Diseases	1,375,923
MOTOR VEHICLE INJURY	*1,339,631*
Other Injury	803,371
Congenital Anomalies	666,684
HIV Infection	660,261
Prematurity	442,664
Sudden Infant Death Syndrome	349,397
Pulmonary Diseases	309,361
Liver Diseases	176,618
Diabetes Mellitus	145,895

* Years of Potential Life Lost referenced to age 65 (YPLL)

Source: MMWR April 9, 1993 and personal communication, Julie Russel, CDC Division of Injury Control and Prevention

Mr. Carr. Is there a large gap between number three and number four leading causes of death?

Mr. Felrice. If I can interject—I am trying to remember the statistics. I think heart disease is around a million——

Mr. Carr. You might use the microphone. We are going to be high-tech one of these days.

Mr. Felrice. I think heart disease is somewhere around a million deaths a year, and cancer is probably over a half a million deaths a year. But yes, there is a large gap. Stroke is the third leading cause of death, and then you jump way down to auto crashes. And I think I mentioned pneumonia is at about the same level. Yes, there is a huge gap between the number three and number four leading causes of death.

Mr. Carr. I think that is important to put on the record. When you say the fourth leading cause of all death, that seems to me to be the kind of statistic which can be taken out of context.

It is like that old story where two people are in a balloon, and they become disoriented. They are in a hot air balloon. They drift over, and they look down on the ground. They say, where are we? And the fellow on the ground shouts back up to them, you are in a balloon. One guy says to the other, that is a Congressman down there. He says, how do you know that? And, he says, because he gave us the right answer, but he didn't tell us anything.

While your data may be technically correct, I think it ought to be put in the correct perspective.

I think a more interesting figure, if you can find it for the Subcommittee, might be deaths that are called premature. I recently was at a health conference that was aimed at women's health issues. The NIH has produced some statistics in terms of disease. I don't know what their methodology was, but there is a way, apparently, of determining whether a death is premature or not.

I think a more interesting statistic might be where highway fatalities rank in that spectrum because it would appear that all, or virtually all, highway fatalities could be put in the class of premature deaths. In contrast, a large number of heart disease victims, for example, may die of congestive heart failure just because they run out of gas at an old age. A comparison between highway fatality and that kind of death, it would seem to me, would not be one that would be particularly relevant.

If we are into making comparisons, I think we want to be able to know how we are doing. Performance measures are very important. We will want to track that performance with the amount of money that we are spending and our spending priorities.

MOTOR VEHICLE TRAFFIC FATALITIES

Mr. Carr. Have you been able to break down that 1.8 fatalities per million miles figure by type of highway fatalities? Have you been able to put some bold relief on what types of fatalities we are talking about?

Mr. Parker. Mr. Chairman, we have looked at that in a number of ways. What I have with me today is that for occupants of vehicles, passenger cars changed. This is a change from 1991 to 1992. The passenger car fatalities drop was 5 percent; light truck and vans, 2 percent; medium and heavy trucks, 11 percent; and motorcycles 17 percent.

We have done over time a number of cuts at this data to break out causes, for example, which are proportionate to the type of vehicle, and we can provide all of that for the record.

[The information follows:]

The following tables present historical information on motor vehicle traffic fatalities for passenger cars, light trucks, motorcycles and large trucks (Gross Vehicle Weight Ruling of 10,000 pounds or greater), as well as the number of registered vehicles, estimated vehicle miles of travel and associated rates.

Mr. Parker. The other thing we have done with regard to what you were talking about, the hierarchy for other causes of death, we have done it also on a population basis, because young people won't die of heart disease and strokes and things like that. So it is somewhat misleading to say it is the number one cause of death for young people because they are not going to die of these other things. We can do it by an absolute. We have done it by a population basis. We can provide all of that for the record.

MOTOR VEHICLE OCCUPANT/NON MOTORIST FATALITY STATISTICS

Mr. Carr. Well, we would love to have those statistics. The staff may be talking to you about format. I think we are interested in doing some analysis on that so that we know more about how dollars relate to goals in safety increases and in fatality reduction.

[The information follows:]

Motor Vehicle Traffic Fatalities

	Occupant Fatalities							Nonmotorist Fatalities				Total Fatalities
Year	Passenger Cars	Light Trucks	Large Trucks	Motor cycles	Buses	Other/Unk	Total	Pedestrian	Pedalcylist	Other	Total	
1975	25,928	4,856	961	3,189	53	938	35,925	7,516	1,003	81	8,600	44,525
1976	26,166	5,438	1,132	3,312	73	981	37,102	7,427	914	80	8,421	45,523
1977	26,782	5,976	1,287	4,104	42	959	39,150	7,732	922	74	8,728	47,878
1978	28,153	6,745	1,395	4,577	41	622	41,533	7,795	892	111	8,798	50,331
1979	27,808	7,178	1,432	4,894	39	579	41,930	8,096	932	135	9,163	51,093
1980	27,449	7,486	1,262	5,144	46	540	41,927	8,070	965	129	9,164	51,091
1981	26,645	7,081	1,133	4,906	56	603	40,424	7,837	936	104	8,877	49,301
1982	23,330	6,359	944	4,453	35	525	35,646	7,331	883	85	8,299	43,945
1983	22,979	6,202	982	4,265	53	362	34,843	6,826	839	81	7,746	42,589
1984	23,620	6,496	1,074	4,608	46	440	36,284	7,025	849	99	7,973	44,257
1985	23,212	6,689	977	4,564	57	544	36,043	6,808	890	84	7,782	43,825
1986	24,944	7,317	926	4,566	39	442	38,234	6,779	941	133	7,853	46,087
1987	25,132	8,058	852	4,036	51	436	38,565	6,745	948	132	7,825	46,390
1988	25,808	8,306	911	3,662	54	429	39,170	6,870	911	136	7,917	47,087
1989	25,063	8,551	858	3,141	50	424	38,087	6,556	832	107	7,495	45,582
1990	24,092	8,601	705	3,244	32	460	37,134	6,482	859	124	7,465	44,599
1991	22,347	8,380	659	2,806	31	475	34,700	5,797	841	124	6,762	41,462
1992	21,330	8,220	585	2,325	25	590	33,075	5,410	715	0	6,125	39,200

Passenger Car Occupant Fatalities Registered Vehicles, Vehicle Miles of Travel and Fatality Rates

Year	Passenger Car Occupant Fatalities	Registered Passenger Cars	Vehicle Miles of Travel (VMT) (millions)	Fatality Rate per 100,000 Registered Passenger Cars	Fatality Rate per 100 million VMT
1975	25,928	106,705,950	1,033,950	24.30	2.5
1976	26,166	110,188,640	1,078,215	23.75	2.4
1977	26,782	112,287,522	1,109,243	23.85	2.4
1978	28,153	116,573,394	1,146,508	24.15	2.5
1979	27,808	118,428,730	1,113,640	23.48	2.5
1980	27,449	121,600,843	1,111,596	22.57	2.5
1981	26,645	123,098,411	1,130,827	21.65	2.4
1982	23,330	123,701,665	1,166,256	18.86	2.0
1983	22,979	126,443,732	1,198,023	18.17	1.9
1984	23,620	128,157,682	1,224,919	18.43	1.9
1985	23,212	131,864,029	1,260,565	17.60	1.8
1986	24,944	135,431,112	1,301,214	18.42	1.9
1987	25,132	137,208,290	1,355,330	18.32	1.9
1988	25,808	141,251,695	1,429,579	18.27	1.8
1989	25,063	143,025,658	1,477,769	17.52	1.7
1990	24,092	143,453,040	1,513,184	16.79	1.6
1991	22,347	142,955,623	1,533,668	15.63	1.5
1992	21,330	N/A	N/A	N/A	N/A

Light Truck Occupant Fatalities Registered Vehicles, Vehicle Miles of Travel and Fatality Rates

Year	Light Truck Occupant Fatalities	Registered Light Trucks	Vehicle Miles of Travel (VMT) (millions)	Fatality Rate per 100,000 Registered Light Trucks	Fatality Rate per 100 million VMT
1975	4,856	20,418,250	200,700	23.78	2.4
1976	5,438	22,300,740	225,834	24.38	2.4
1977	5,976	23,624,382	250,591	25.30	2.4
1978	6,745	25,476,057	279,414	26.48	2.4
1979	7,178	27,022,233	291,905	26.56	2.5
1980	7,486	27,875,934	290,935	26.85	2.6
1981	7,081	28,927,832	296,343	24.48	2.4
1982	6,359	29,791,960	306,141	21.34	2.1
1983	6,202	31,214,223	327,643	19.87	1.9
1984	6,496	32,106,388	357,999	20.23	1.8
1985	6,689	33,865,483	373,072	19.75	1.8
1986	7,317	34,820,377	389,047	21.01	1.9
1987	8,058	35,841,360	415,449	22.48	1.9
1988	8,306	37,095,808	439,496	22.39	1.9
1989	8,551	37,917,701	454,339	22.55	1.9
1990	8,601	38,863,550	466,092	22.13	1.8
1991	8,380	38,930,360	472,885	21.53	1.8
1992	8,220	N/A	N/A	N/A	N/A

Motorcycle Occupant Fatalities Registered Vehicles, Vehicle Miles of Travel and Fatality Rates

Year	Motorcycle Occupant Fatalities	Registered Motorcycles	Vehicle Miles of Travel (VMT) (millions)	Fatality Rate per 100,000 Registered Motorcycles	Fatality Rate per 100 million VMT
1975	3,189	4,964,070	5,629	64.24	56.7
1976	3,312	4,933,332	6,003	67.14	55.2
1977	4,104	4,933,256	6,349	83.19	64.6
1978	4,577	4,867,864	7,158	94.02	63.9
1979	4,894	5,422,132	8,637	90.26	56.7
1980	5,144	5,693,940	10,214	90.34	50.4
1981	4,906	5,831,132	10,690	84.13	45.9
1982	4,453	5,753,858	9,910	77.39	44.9
1983	4,265	5,585,112	8,760	76.36	48.7
1984	4,608	5,479,822	8,784	84.09	52.5
1985	4,564	5,444,404	9,086	83.83	50.2
1986	4,566	5,262,322	9,397	86.77	48.6
1987	4,036	4,917,131	9,506	82.08	42.5
1988	3,662	4,584,284	10,024	79.88	36.5
1989	3,141	4,433,915	10,371	70.84	30.3
1990	3,244	4,259,462	9,557	76.16	33.9
1991	2,808	4,177,037	9,178	67.22	30.6
1992	2,325	N/A	N/A	N/A	N/A

Large Truck Occupant Fatalities Registered Vehicles, Vehicle Miles of Travel and Fatality Rates

Year	Large Truck Occupant Fatalities	Registered Large Trucks	Vehicle Miles of Travel (VMT) (millions)	Fatality Rate per 100,000 Registered Large Trucks	Fatality Rate per 100 million VMT
1977	1,287	5,689,903	95,021	22.62	1.4
1978	1,395	5,859,807	105,739	23.81	1.3
1979	1,432	5,891,571	109,004	24.31	1.3
1980	1,262	5,790,653	108,491	21.79	1.2
1981	1,133	5,716,278	108,702	19.82	1.0
1982	944	5,590,415	106,880	16.89	0.9
1983	982	5,508,392	113,163	17.83	0.9
1984	1,074	5,401,075	123,927	19.88	0.9
1985	977	5,330,678	126,580	18.33	0.8
1986	926	5,249,102	130,141	17.64	0.7
1987	852	5,303,094	135,601	16.07	0.6
1988	911	5,433,560	141,397	16.77	0.6
1989	858	5,692,148	148,318	15.07	0.6
1990	705	5,854,337	149,810	12.04	0.5
1991	659	5,854,673	150,740	11.26	0.4
1992	585	N/A	N/A	N/A	N/A

The following tables present historical information on motor vehicle occupant and nonoccupant fatality rates per 100,000 population for the period 1975 through preliminary estimates for 1992.

Motor Vehicle Occupant Fatality Rate per 100,000 Population by Age

Year	0-4	5-15	16-24	25-44	45-64	65-79	80+	Total
1975	4.50	4.43	37.15	19.08	13.36	15.60	15.57	16.67
1976	4.50	4.64	38.44	18.78	13.65	15.64	16.57	17.05
1977	4.68	4.91	41.10	19.54	13.74	14.65	15.60	17.81
1978	4.61	4.91	42.86	21.15	13.77	15.35	15.60	18.70
1979	4.35	4.72	42.48	21.74	13.64	14.26	14.65	18.67
1980	4.24	4.58	41.60	21.56	13.69	13.61	14.87	18.45
1981	3.74	4.06	38.13	21.12	13.24	13.49	15.24	17.60
1982	3.66	3.73	33.86	17.85	11.51	12.48	15.20	15.36
1983	3.53	3.61	32.38	17.28	11.31	12.83	15.14	14.87
1984	3.11	3.93	34.31	17.47	11.45	14.00	15.06	15.34
1985	3.15	4.09	33.68	16.97	11.52	13.54	16.84	15.10
1986	3.39	4.31	36.64	17.77	11.34	14.45	17.55	15.86
1987	3.74	4.37	35.54	17.86	11.90	14.43	18.92	15.84
1988	3.77	4.23	36.80	17.53	12.10	14.90	20.52	15.94
1989	3.88	4.22	33.86	17.11	12.17	14.94	20.87	15.34
1990	3.30	3.96	32.57	16.79	12.07	14.55	18.91	14.89
1991	3.13	3.71	30.36	15.14	10.94	14.51	19.83	13.76
1992	2.93	3.52	27.59	14.22	10.71	14.51	19.20	12.97

Nonmotorist Fatality Rate per 100,000 Population by Age

Year	0-4	5-15	16-24	25-44	45-64	65-79	80+	Total
1975	3.64	4.76	3.45	2.54	3.40	7.06	11.12	3.99
1976	3.52	4.52	3.43	2.51	3.44	6.39	11.12	3.87
1977	2.99	4.39	3.64	2.67	3.60	6.76	11.14	3.97
1978	3.14	4.48	3.81	2.85	3.54	6.01	9.68	3.96
1979	2.87	4.31	4.29	3.08	3.50	6.21	9.78	4.08
1980	2.67	4.09	4.40	3.02	3.54	3.03	10.38	4.03
1981	2.14	3.76	4.20	3.14	3.32	5.54	9.70	3.87
1982	2.14	3.41	4.20	3.03	3.04	5.13	7.49	3.58
1983	2.02	3.31	3.77	2.81	2.95	4.30	8.61	3.31
1984	1.91	3.32	3.62	2.78	3.11	4.57	8.80	3.37
1985	2.03	3.28	3.38	2.67	3.00	4.48	8.29	3.25
1986	1.87	3.36	3.55	2.73	2.90	4.29	8.23	3.26
1987	1.64	3.39	3.30	2.75	2.98	4.35	8.13	3.21
1988	1.66	3.21	3.20	2.81	2.87	4.60	8.57	3.22
1989	1.52	2.74	2.80	2.85	2.84	4.12	7.92	3.02
1990	1.59	2.48	2.67	2.88	2.84	4.23	7.93	2.99
1991	1.43	2.39	2.63	2.50	2.54	3.49	6.99	2.68
1992	1.25	1.92	2.13	2.27	2.37	3.18	6.17	2.40

ECONOMIC COST OF HIGHWAY ACCIDENTS

Mr. **Carr**. Also, I assume you have data on injuries that you could provide. Quite frankly, I was always told by my old law professors that, from a legal standpoint, if you are going to get in an auto accident, you are better off if the person you run over or run into is killed rather than injured from an expense point of view.

This might appear to be very hard, cold and calculating, but the fact of the matter is the number, from an economic point of view, that we really should be focusing on is the injury, not necessarily the death. Death has costs that are huge. They are enormous. Many of them are noneconomic. But just in terms of economic performance, we ought to be concerned about those injuries. Do you have that data as well?

Mr. **Smolkin**. Yes, sir.

[The information follows:]

Attached are two tables that summarize the cost per injury or fatality, and the total cost to society resulting from all injuries and fatalities. These tables are taken from "The Economic Cost of Motor Vehicle Crashes", published in September 1992. (DOT HS 807-876). These data show that individual fatalities are most costly to society at $702,000. The bulk of this total, $560,000, is the result of lost productivity over the remaining lifetime of the person killed. On an aggregate basis, however, fatalities cost society $31 billion, while injuries cost $71 billion.

TABLE I-1
Summary of Total Costs, 1990
(Millions of 1990 Dollars)

	PDO	MAIS 0	MAIS 1	MAIS 2	MAIS 3	MAIS 4	MAIS 5	Fatal	Total	% Total
Injury Components:										
Medical			3,163	3,127	3,347	1,241	2,844	165	13,887	10.10%
Premature Funeral								133	133	0.10%
Emergency	577	24	619	168	80	22	12	41	1,543	1.12%
Voc. Rehab.			60	49	34	5	5	0	154	0.11%
Market Prod.			4,913	5,673	5,896	1,001	1,861	20,422	39,766	28.92%
HH Prod.	865	33	1,505	1,546	1,551	266	475	4,527	10,769	7.83%
Insurance Adm.	3,053	118	1,944	974	1,012	251	505	2,152	10,009	7.28%
Wkplce Cost	721	29	716	668	473	62	58	297	3,025	2.20%
Legal/Court			1,367	1,212	1,821	437	866	3,159	8,862	6.45%
Subtotal	$5,216	$205	$14,286	$13,420	$14,215	$3,285	$6,625	$30,897	$88,148	64.12%
Non-Injury Components:										
Travel Delay	2,572	127	799	98	31	4	2	17	3,650	2.65%
Prop. Damage	27,809	1,394	13,288	1,678	917	160	81	359	45,686	33.23%
Subtotal	$30,381	$1,521	$14,087	$1,776	$948	$164	$82	$376	$49,335	35.88%
Total	$35,597	$1,726	$28,373	$15,196	$15,163	$3,449	$6,707	$31,273	$137,483	100.00%
% Total	25.89%	1.26%	20.64%	11.05%	11.03%	2.51%	4.88%	22.75%	100.00%	

Note: MAIS is the maximum injury level experienced by the victim. PDO is property damage only.
Totals may not add due to rounding.

TABLE I-2

Summary of Unit Costs, 1990

	PDO	MAIS 0	MAIS 1	MAIS 2	MAIS 3	MAIS 4	MAIS 5	Fatal
Injury Components:								
Medical			685	5,517	18,585	57,030	249,753	3,705
Premature Funeral								2,988
Emergency	24	17	134	297	446	1,015	1,033	930
Voc. Rehab.			13	87	188	245	467	
Market Prod.			1,064	10,008	32,738	46,010	163,430	458,606
HH Prod.	36	24	326	2,728	8,612	12,205	41,684	101,658
Insurance Adm.	127	85	421	1,719	5,620	11,519	44,326	48,336
Wkplce Cost	30	21	155	1,179	2,627	2,862	5,069	6,679
Legal/Court			296	2,139	10,110	20,105	76,049	70,934
Subtotal	$217	$147	$3,094	$23,674	$78,926	$150,991	$581,811	$693,836
Non-Injury Components:								
Travel Delay	107	91	173	173	173	173	173	387
Prop. Damage	1,157	1,000	2,878	2,960	5,090	7,367	7,071	8,058
Subtotal	$1,264	$1,091	$3,051	$3,133	$5,263	$7,540	$7,244	$8,445
Total	$1,481	$1,238	$6,145	$26,807	$84,189	$158,531	$589,055	$702,281

Note: Unit costs are on a per-person basis for all injury levels. PDO costs are on a per-damaged vehicle basis.

PREMATURE DEATHS

Mr. **Smolkin**. Let me put some of the discussion we have just had in context. You had mentioned the issue of premature deaths. Now heart attacks, which are the number one killer, kill about 400,000 people a year. If you do the equivalent years of life lost, since so many younger people die in motor vehicle crashes, you are talking about almost an exact equivalent, and we will provide that for the record.

[The information follows:]

One way to measure premature death is to utilize the concept of Years of Potential Life Lost (YPPL). The most recent data available from the Centers for Disease Control show that in 1990 heart diseases resulted in 1,375,923 years of potential life lost and motor vehicle injuries resulted in 1,339,631 years of potential life lost.

ECONOMIC COST OF HIGHWAY ACCIDENTS

Mr. **Smoklin**. In terms of looking at the economic cost of death and injury, we have done a significant amount of research on that subject. And, if you will bear with me, I would like Don Bischoff to tell you a little bit about some of that work because we find it very instructive in opening our eyes to some of the benefit costs relationship of our program. Don?

Mr. **Bischoff**. Just regarding the point you just made, the $137 million total cost breaks down to $31 million as a result of fatalities; $71 million is from injuries and $36 billion, excuse me, B with a billion dollars—from PDO crashes. So you are right. The injuries are a disproportionate share of the burden of the crashes.

Mr. **Carr**. I notice that some of my other colleagues have arrived. I want to know if they have any preliminary questions or opening statements.

Mr. Price?

Mr. Regula?

ALTERNATIVE FUEL VEHICLES

Mr. **Regula**. Thank you, Mr. Chairman. Just a few questions.

You mention in your formal testimony plans to look at safety issues relating to the use of alternative fuel data, particularly compressed natural gas and electric cars. I would be interested—what characteristics of alternative fuel vehicles make the safety issues different from other conventional fueled vehicles and what will NHTSA be examining? And, certainly, alternative fuel vehicles are going to be more and more part of the landscape.

Mr. **Felrice**. If I may answer that. Our goal in the alternative fuel area is to not impede the introduction of these vehicles. So if there are any unique standards that should apply to these vehicles then we want them in place as soon as possible.

We have completed our rulemaking on methanol vehicles to require a prohibition of the ability to siphon fuel out of it. Methanol is more toxic than gasoline or diesel.

We have looked at electric vehicle safety, and in a rulemaking notice last fall we said that, based on public comments we had, that we would not at this period of time be adding any unique standards, safety standards, for electric vehicles because the battery technology is the area of greatest concern—and that is changing so quickly that we felt that any standards we might issue would be hopelessly out of date by the time they went into effect.

And the last issue is natural gas. We have a proposed rule that is out for comment now, and the period runs for another month, and we hope to have that rulemaking completed by the end of the year. That rule would put in place an equivalent fuel system integrity standard.

There is nothing about gas leakages in our current standard. So we propose to conduct a crash test and measure the amount of gas that leaks from the vehicle. And, if any, we would limit that amount and have some structural integrity standards for the cylinders themselves. So it would be a vehicle standard as well as a standard for all cylinders used to power the vehicles.

Mr. REGULA. Would these standards be applicable to both automobiles as well as delivery trucks or would there be a common standard for all types of vehicles?

Mr. FELRICE. Generally yes. We would put them at the same level as we have for gasoline-powered vehicles. The fuel system standard only applies to vehicles below 10,000 pounds gross vehicle weight rating, except for school buses. And we propose the same applicability to the compressed natural gas standards.

NISSAN MINI-VAN RECALLS

Mr. REGULA. And the second question is, we are getting calls about engine failures in Nissan mini-vans. I understand that they have totally recalled some vans to fix this, but the problems persist. I am also told that Nissan dealerships are not giving close to book value for trade-ins.

Mr. SMOLKIN. We are deeply involved in that, Mr. Chairman, and we are aware that some of the early recalls on the vehicles did not solve all the problems. I would like to have Mr. Boehly bring you up to date on that.

Mr. BOEHLY. There have been three recalls for engine compartment fires. The agency was planning to audit the recalls which is a routine action that we do, to see if the fire problem was continuing. We have not had any complaints to the agency about the engine compartment fires.

Before the audit, we were petitioned to hold a public hearing on the adequacy of the recalls, which is an action allowed under our statute. On the basis of that petition, we opened up an investigation on Nissan, trying to find out what the fire problem is and to get the information on the adequacy of those recalls.

As you mentioned, Nissan has come in with a fourth safety recall where they have outlined to the agency what steps they intend to take. We believe it will address the fire safety problem.

There are other concerns that we have. Numerous fire complaints have come in from around the country. We are reviewing those complaints now to try to make sure that we have fully understood the problem and that the remedy that Nissan has proposed will do an adequate job. We expect to take action on that petition that we received in January in the near future.

Mr. REGULA. They are cooperating?

Mr. BOEHLY. Yes, sir.

SECTION 153 GRANT PROGRAM

Mr. **Regula**. Section 153 of ISTEA provided incentives to the States to enact seat belt laws. For those States lacking laws, certain highway funds are transferred to safety grants. How many states do you anticipate will be subject to this penalty provision? Do you have a number at this time?

Ms. **Derby**. Yes, we do. As of today, 28 states do not comply, so they would be subject to the penalty provision, but they have until the last day of this fiscal year to pass whatever law needs to be passed. So, as of this point, there are 28.

NHTSA HOTLINE

Mr. **Regula**. And, lastly, you testified that the hotline is a major source of information for investigations into vehicle defects and safety occurrence. Could you give me more information about a hotline and how it works? And is the number published? What are the staffing levels? And what kind of problems do you get on the hotline?

Mr. **Boehly**. The hotline is part of our process to identify defects that exist in motor vehicles and assist us in understanding the magnitude of the problems. About 88 percent of all the defect investigations that NHTSA does are prompted by calls to the auto safety hotline. Last year, we received 563,000 calls to our auto safety hotline.

In terms of what we have there to address the problem, there are 32 phone lines which go into our hotline and 11 hotline operators that allow us to receive these calls.

In addition, there is lots of information that is requested. People are not necessarily reporting just safety defects. A large number of phone calls are to try and obtain safety information on performance of safety belts, drunk driving, uniform tire quality rating standards. We disseminate hundreds of thousands of documents and booklets and recall summaries to motorists who are concerned about child safety seats. We believe that the Hotline system is saturated. That is, with the phone lines that we have, we cannot handle the additional calls.

Mr. **Regula**. How is the public made aware of your hotline number?

Mr. **Boehly**. We put out news releases, and it is in all vehicle owners manuals since September, 1990, for all new vehicles sold in this country. It is in most phone books around the country. So we have some distribution but not nearly enough, and we need to publicize it further.

Mr. **Regula**. Does your responsibility cover every type of motor vehicle? To the heaviest truck? To anything that is on the highway?

Mr. **Boehly**. In terms of defect responsibility, any vehicle that is used on the public roads. Rulemaking depends on the type of vehicle as to whether that vehicle is covered.

Mr. **Regula**. Would you set standards for the vehicle characteristics for trucks that are marketed in the United States?

Mr. **Felrice**. Yes, we do, sir.

Mr. **Regula**. Thank you, Mr. Chairman.

Mr. CARR. Mr. Price?

SAFETY BELT/MOTORCYCLE HELMET INCENTIVE GRANT PROGRAM

Mr. PRICE. Thank you, Mr. Chairman.

I would like to start by raising a matter which we have discussed several times before: the safety belt and motorcycle helmet incentive program and the fact that any funding received in this program is counted against the minimum allocation. You mentioned that two eligible States for Section 153 grants, Florida and Missouri, informed you that they wouldn't apply for these grants in order to avoid reducing the fiscal year 1993 Federal highway allocations under the ISTEA legislation. That, of course, is not good news for the safety belt and motorcycle helmet program, posing that kind of trade-off for these States. And it appears that some of them are going to opt simply not to participate.

Do you expect this pattern to continue? To expand? Do you expect more States to decline participation in this grant program in fiscal year 1994?

Ms. DERBY. I am pleased to tell you that Missouri is going to take the money. Florida is not. And last year Tennessee only took $100,000 of the money that they were entitled to. But the year has a long time to go, and we haven't heard from all the States. Our early indications are that it may just be Florida.

Mr. PRICE. It may just be Florida, which is, of course, a large State. There are other States that possibly could choose this same option. How seriously should we take this problem? How would you suggest we deal with this trade-off?

Would you, for example, support an amendment to ensure that any State receiving these funds does not have them counted against their minimum allocation? Do you think we should include that in our bill this year?

Ms. DERBY. I think we tried to do that, technically, when it came up, when we found it included this—the provision under the FHWA legislation. So, surely, we would be supportive of taking it out of that list to be counted against the minimum allocation.

PEDESTRIAN SAFETY RESEARCH

Mr. PRICE. You would be supportive of such a provision? Good.

Well, let's turn to some of your research proposals in the area, first, of pedestrian safety and then older driver research. You have an extensive research prospectus on pedestrian safety for good reason. I understand that pedestrians represent the second largest category of motor vehicle deaths—7,000 a year. Is that correct?

Mr. BROWNLEE. About 6,000, yes.

Mr. PRICE. I know it is a difficult problem, enhancing pedestrian safety, since historically, efforts have been limited, probably, by a low awareness on the part of the public and professional safety community and also funding difficulties. For instance, it is my understanding that NHTSA failed to fund this research for, essentially, an eight-year period in the 1980s. Where do you think we are today in overcoming some of these limitations?

Mr. BROWNLEE. If I can respond, sir, our research in pedestrians has three different tacks to it, and it represents what seems to be the largest problems in pedestrian safety. These are with the very young, with older people, and with alcohol-related pedestrian fatalities.

While the total number of pedestrian fatalities has gone down over the past 10 years, the percentage of alcohol-related pedestrian fatalities and the total number of alcohol-related pedestrian fatalities have gone down very slowly. So we think there is a great deal more work that needs to be done to address the problems of alcohol-related pedestrian fatalities. Our test program is designed to find out more about who these people are and how to get at the alcohol-related problems.

Mr. PRICE. You mentioned that more research is needed in crashes involving the adult population, especially alcohol-related pedestrian crashes. It is not clear to me what you want to do. Have you requested funding for this research in fiscal year 1994? I don't see a specific proposal in your budget justification.

Mr. BROWNLEE. Yes, that is included in the R&D Program, if not mentioned specifically. We think that the task confronting us in alcohol-related pedestrian fatalities is to be more precise about who these people are. Are they people who have begun walking because they shouldn't drive? Are these repeat offenders? Are these people who have substantial alcohol problems? Or are they people who could be reached by other, less severe means in order to reduce the fatalities?

But we believe that is the place to start to understand the problem to a greater degree than we do at this point.

PEDESTRIAN AND BICYCLE SAFETY TO STATES

Mr. PRICE. I know that you say that NHTSA has examined the problem of transferring pedestrian and bicyclist safety programs from the Federal level to State and local programs. How have those transfers been effected?

Mr. BROWNLEE. Would you rephrase the question?

Mr. PRICE. The transferring of pedestrian and bicyclist safety technology from the Federal level to State and local programs.

Mr. BROWNLEE. Oh, yes, I understand. Bicycle safety is governed in large degree by the extent of bicycle helmet use, and to transfer the knowledge that we have on bicycle helmets back out to the States so that they may use that in their programs at the State level is the kind of transfer that we are talking about.

In addition to citing the pedestrian problem, we have a considerable amount of information on the types of fatalities that affect children and where they occur. There is even terminology that has been developed to characterize the types of accidents that occur with these young people. Transferring this information to the States and local communities so that they can take action is an example of that kind of transfer about effective ways to deal with the problem.

Ms. DERBY. If I might add to that, Mr. Price.

There is increased activity at the State level with the new requirement of the Federal Highways initiative on safety management systems; we have entered into a number of joint initiatives with them, NHTSA and FHWA. That has been going on for some time, but it has not been taken very seriously since the Federal Highway Administration loosened up the amounts of money that they can spend.

Now it is not uncommon for the two agencies to pool their resources at the State level. When they look at pedestrian solutions, they can look at overpasses, changing lights, whatever the engineering remedies are, in addition to the NHTSA remedies. I think we are going to see effective programming at the State level.

PEDESTRIAN SAFETY PLAN

Mr. PRICE. You express concern in your pedestrian safety plan that you need feedback and evaluation on the effectiveness of your programs. Have any of your programs been subjected to the kind of scrutiny that you think is needed? What kind of efforts do we need here?

Mr. BROWNLEE. I think we need more. We need more examples of where these programs have been applied at the State and local level to provide a technically competent evaluation of those programs. In pedestrians, the numbers are directionally correct over the past 10 years; the numbers are going down. But to be able to do a better job of evaluating those State and local programs is an important task for us, and we would like to explore that more.

Mr. PRICE. Well, it is a very ambitious program that we are talking about, and I commend you for it.

I do wonder why these plans are not reflected more in your actual budget request. The budget request, as I read it, is essentially flat. And it raises the question, can you realistically expect to address these problems with this budget request? It is an area that you have admitted was underfunded. And you have doubts—you have expressed them candidly—about the effectiveness of the program. And yet your budget justification doesn't appear to match these concerns. Should we be worried about this apparent disconnect?

Mr. BROWNLEE. Well, certainly, sir. I think we would be happy to provide more detail on why the programs are reflected within the budget that we have. And that would be certainly something that we would give to you.

And I guess, as people responsible for programs, more money is always welcome. And I think we could do more. But I believe that, within the current budget, we are trying to establish priorities and allocate the money both from a research standpoint and an evaluation standpoint and an execution standpoint.

Of course, pedestrians are an important part of that and shouldn't be shortchanged at all. We believe that the mix that we have is about correct, but I would be happy to give you more detail on that.

Mr. PRICE. I think we could use that.

[The information follows:]

In general, current research and evaluation initiatives are directed at alcohol impaired pedestrians, elderly pedestrians and to a lesser extent young children. Between 34 and 45% of all adult pedestrian accidents involve an alcohol impaired pedestrian. Research in FY 1994 will continue to focus on developing and field testing programs designed to reduce alcohol related pedestrian crashes.

Another area of concern relates to older pedestrians who comprise 12% of the population, but account for 22 percent of the pedestrian fatalities. Work in this area is also continuing in FY 1994. A joint NHTSA and FHWA study will develop comprehensive elderly protection programs that localities can implement in areas where the elderly live.

Other research in FY 1994 will focus on the need to increase the awareness of the public and safety professionals to pedestrian and bicyclist crash problems, their magnitude, severity, nature, and the existence of preventative approaches. This jointly sponsored effort with FHWA will continue in FY 1994 with the development of public education and awareness materials and subsequent implementation of a nationwide campaign.

Previous NHTSA research developed safety materials (e.g., in-class films, posters, T.V. spots) that were directed at reducing pedestrian crashes of child pedestrians at mid-block and intersection locations. Subsequent field testing with these materials were found to reduce mid-block and intersection crashes by more than 20 percent. Research efforts to identify ways to reduce crashes for young children continue. Current research is underway on the development of a pedestrian safety training program for elementary school bus riders. This research is aimed at improving the trip safety of students from the time they leave home for school until their return.

OLDER DRIVER RESEARCH

Mr. PRICE. I am not talking about requests for increases just to be making them but some kind of tighter linkup between the work you see as needed and what would be possible for you at different funding levels; how the dollars match up with those priorities.

You know, in the Section 402 program, pedestrian and bicycle safety has been designated as a national priority area, and I think this underscores your point. This is the time to focus resources in this area so the programs developed from the research effort are effective and receive wide dissemination. So I would welcome a closer analysis of the implications of these budget numbers in program terms.

Finally, let me turn to older driver research. Last year, the committee added, at my request, $400,000 to your budget for older driver research. And I am glad to see you come in this year with a funding request at essentially the same level for fiscal year 1994. Some slight fall-off, but, basically, funding at that same level.

I am not as pleased, however, with the efforts in meeting some of the requirements that we laid out last year in our subcommittee report. We required you to submit a report on a plan of action and milestones for a strengthened research area in this area, a research effort in this area of older driver research. You did get that report to us essentially on time, which I appreciate. But the contents are less satisfying, I would have to say.

You list your research projects, you categorize them into three groups and give us an estimated time of completion. When you compare that to the pedestrian safety program research action plan, it seems pretty skimpy. In that pedestrian plan you give us a sense of the past pitfalls, how the various research problems fit into addressing those problems. It is a very impressive prospectus.

But, in comparison, this report on older driver research seems, frankly, to just be going through the motions. I am willing to support higher funding in this area, but I want to be assured that this research is well-directed, well-thought out and what we are trying to achieve in this area is fully rationalized.

Mr. SMOLKIN. Sir, first, we are not in any sense just going through the motions. The difficulty is that you need a knowledge base to know what you don't know. And we are in the process of laying out that knowledge base in the older driver area. We are walking a line between first trying to differentiate among the various types of problems we have with the older driver.

The older driver is disproportionately represented in crashes in terms of the miles they drive. But, first, we have to look below those numbers. To a great extent, older drivers are self-limiting, and they determine that some of their abilities may not be as good as they used to be, and they take appropriate actions.

We also have to look at the drivers that may not recognize what their abilities are and further take steps to show them how we might suggest that they limit their abilities.

We are also doing work on the crashworthiness side of our vehicles. When older drivers are involved in crashes, they tend to be hurt more in a crash than a younger driver might be. They are more fragile in that sense. So some of the research that does not show up in an older driver report as such, is ongoing in the agency. But I would like Mike to tell us a little more about exactly how we are focusing on some of the research approaches in an area that to this agency is very important.

Mr. BROWNLEE. I think one of the characteristics that we ought to acknowledge is that by most all measures, with some exceptions—and it relates to the exceptions that Mr. Smolkin mentioned—older drivers are very safe. Looking at the numbers that are lost in fatalities on a rate basis, they are very safe. The numbers actually killed are much lower than they are for other populations.

But that is going to change as older drivers become more prevalent in the population. Obviously, the problems will increase as well.

The basic and fundamental problem with respect to what happens to us as we age—physical infirmity and some of the intellectual changes that occur—is that we simply do not have an adequate knowledge base of how that relates to drivers and to the drivers' tasks. A lot of our work, initially, is focused in that way so that we can find out as much as we can from the scientific community about what these changes mean and how they relate to driving tasks.

A key part of what we would like to do in the future when we get more information about that is transfer that information out in two ways: first, to the drivers themselves so that self-regulation can take place. There is a substantial amount of data available right now that drivers do self-regulate as they get older. Times of day when driving occurs—the complexity of the driving situation is reduced as we get older.

As we get more information about how these infirmities relate to the driver's task, we are going to be in a better position to make that information available to licensing agencies as well so that they can reflect that in their licensing programs throughout the States. So our program will find out as much as we can about what aging changes mean in terms of driving and give that information back out to the driving public and to the licensing agencies.

Mr. SMOLKIN. I think it is also important, sir, that we look at some of the higher technology approaches. We are talking to the problems of the older driver, particularly in some of our IVHS work. George?

Mr. PARKER. Yes. Mr. Price, we do have an IVHS program, a component that is directed toward older drivers. And an example is that older drivers are overrepresented in intersection-type crashes. And that is one of our first priorities in our IVHS collision avoidance program, to look at that particular problem and see what solutions can be applied in the way of advanced technology that would help older drivers.

Mr. Smolkin also mentioned the work that we have in the crashworthiness area. We know that older drivers are more fragile. One of our programs is on improved frontal protection. We are looking at lower extremity injuries from offset frontal crashes, and we know that older drivers have a particular problem in that area. So if we can find a solution and a test that we could run to improve frontal protection, we think older drivers would derive higher benefits from that than the general population.

Ms. DERBY. Mr. Price, if I might, I would like to leave with you a brochure on an older driver conference that is being held in Arizona. It is being cosponsored by NHTSA and FHWA and they are going to discuss a whole range of issues.

Mr. PRICE. Good. I appreciate this range of issues. I think we have gotten a more integrated picture of this research effort than we did in your submission which does have a sort of disjointed and skeletal quality.

As I look at the specific projects, the timeline on the specific projects, I see the ones that are most clearly related to public policies and to our practices in screening and licensing older drivers. I see those have a pretty extensive timeline. A lot of them are scheduled for completion no earlier than 2001. The evaluation of the screening and the evaluation programs, the evaluation of existing medical and community-based appraisal of driving limitations, the evaluation of programs that maintain older driver mobility, that kind of practical payoff seems too far in the future. Is that an accurate reflection of where we are in this area?

Mr. SMOLKIN. Yes, is the answer to both questions, sir. In a less formal sense we are trying to work with the States to look at the activities that might be undertaken on a more rapid basis.

We are aware of the fact that as a person ages they begin to lose peripheral vision. Most States, when they conduct their driver examinations, have a front-on eye test. In the future, we are looking to the extent to which we would want to vary that testing to pick up some of these problems. But the bottom line is that some of these issues are going to require extensive research.

In the intersection crashes that Mr. Parker mentioned, for example, we are not quite sure whether the reason for so many of these crashes is that the older driver doesn't see the car approaching or whether there is a problem with short-term memory. They see them. They turn to the other side. They haven't laid down the memory that that other vehicle is there. This side is clear, and they go out. That kind of research is very complex, and it will take a substantial amount of time before we can reach a conclusion.

Mr. PRICE. It appears that you didn't, to any great extent, follow the guidance of the subcommittee in terms of working with the

Centers for Disease Control and universities in developing functional assessments of older drivers's abilities. Looking at the research plan, there is barely a mention of any of these components again. Is that accurate? And what can you report to us on the effort to address the subcommittee's concerns in these areas?

Mr. SMOLKIN. We do work closely with CDC on a wide variety of issues.

Mr. BROWNLEE. Yes. Let me add to that.

One of the first tasks that we thought should be done under the older driver program is to collect all the information that exists relating to the issues at hand. And that is, what aging means in terms of driving.

We have entered into a cooperative agreement with the Oak Ridge National Laboratory to pull together all of the research that has been conducted at the university level and other sources as well. We really believe that the first step in this process is to find out what we know and what the researchers at the university level have told us. And that is an important first step, we believe, before we launch out on additional behavioral research that may replicate research that has already been done.

I would like to add one other thing that relates to an issue that you raised a few minutes ago. Some of the States out there are considering some innovative programs from a licensing perspective for older drivers. While there are limitations on being able to test older drivers, there are some States that are ahead of the pack. And California is one of those.

The additional funds that were provided in our fiscal year 1993 budget are going to be used for the purpose of exploring licensing programs with California and seeing from an evaluation point of view how it works. So there is a long-term research agenda here as well. We are trying to capture and take advantage of some shorter term efforts that are going on in the States to see if it is effective.

OLDER DRIVER SAFETY PLANS

Mr. PRICE. It may be that the report doesn't do full justice to your efforts here, particularly in working with the CDC and accessing university-based research. If you have something to add in terms of your work along these lines or your plans or deficiencies that you would hope to remedy, I would appreciate your submitting that for the record.

Mr. SMOLKIN. We would be happy to, sir.

[The information follows:]

NHTSA released two separate reports during 1993. In combination they address the issues that you raise. The "Traffic Safety Plan for Older Persons," released in March of this year, provides a timetable for the more complete research agenda described in "Addressing the Safety Issues Related to Younger and Older Drivers," which was distributed in January. These were released separately to respond to different Congressional directives: Senate Report 102-148, and the House Appropriations Committee, Report 102-639.

Research has been continuing concurrent with the release of these two documents. For example, the Agency is working closely with the Centers for Disease Control and several universities to assess the functional capabilities of older drivers in performing the driving task from five approaches. The Agency believes that this integrated approach is the best way to assess older drivers' functional abilities.

NHTSA, the CDC and the National Institute on Aging are together developing functional assessment tools at the University of North Carolina, Washington University in St. Louis, Johns Hopkins University, Rochester University, and Iowa University.

Through Oak Ridge National Lab, the Agency is evaluating existing data bases that are maintained by states or universities to determine how functional limitations impact an older driver's ability to drive safely.

Through the American Occupational Therapy Association and the Association of Driver Educators for the Disabled, the Agency is developing a set of standardized testing instruments that will assess disabled driver functional assessment abilities as they relate to the driving task.

Initiating a cooperative agreement with the California Department of Motor Vehicles to develop testing instruments to be used in the licensing process for drivers with functional limitations.

NHTSA has structured its older driver programs to follow Congressional policies. The research planned for the next several years on the complex older driver issues represents an approach that is the result of all the Agency has learned to date. Interdisciplinary experts from a variety of fields were consulted to help us determine what information is already available, and for what is not available, how these information gaps can be filled. The summary of these extensive efforts is contained in "Addressing the Safety Issues."

There are reasons why the milestones established in the Plan extend for several years. Some projects are sequential in nature; for example, one must first create a demonstration program, implement it on a limited scale, then evaluate its success prior to widespread implementation. Many of these kinds of sequential projects are described in the enclosed reports. Several of the later projects described in the Plan, in particular the evaluation projects, fall into this sequential category and by necessity must be carried out only after other work is completed. In addition, fiscal and staffing constraints impose their own limitations. One major project already underway this year, described as item #1 in the Plan, involves a contract with Oak Ridge National Lab for $350,000. This single project consumes nearly the entire budget for this fiscal period, yet it is just one project on the list of what remains to be accomplished. In addition, where possible the Agency also achieves its goals through cooperative, non-cost efforts with other government agencies. These cooperative projects extend our ability to complete tasks by using staff expertise and resources from other agencies.

Finally, in terms of demographic projections from the U.S. Bureau of the Census, the research timetable established in these documents puts the Agency well ahead of the time when there will be substantial numbers of older drivers on the roads. While today's older driver fatality *rates* are very high, requiring our current attention, the absolute number of older drivers projected for the future compels our being fully prepared at that time. We believe that our current research timetable equips us to do just that.

THE NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

TRAFFIC SAFETY PLAN FOR OLDER PERSONS

U.S. Department
of Transportation

**National Highway
Traffic Safety
Administration**

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PREFACE

In the mid-1980's, it became apparent that the problems facing older drivers, occupants, and pedestrians required increasing attention. Not only were the number of older Americans increasing, more were driving and the incidence of injury and fatality resulting from motor vehicle crashes was increasing at a faster rate than the population growth. To address this problem the agency developed and published an action plan, "The National Highway Traffic Safety Administration's Traffic Safety Plan for Older Persons," in September 1988.

The research undertaken to implement the 1988 plan indicated that older drivers are overrepresented in crashes at intersections and during certain hours of the day, that they are underrepresented in crashes involving alcohol or speed, and that many older drivers tend to self-adjust their driving to accommodate any reduction in functional capacity. The results also showed that older driver safety problems are concentrated among older drivers who are either unaware of their difficulties or unable to make compensating adjustments to their driving. Included are drivers with peripheral vision problems that are not easily detectable with standard vision tests or those who cannot comprehend their difficulties, such as those with dementia. Similar problems were also uncovered in pedestrian safety. In addition, the research confirmed that drivers, passengers, or pedestrians over age 80 are more likely to be injured or killed in a crash than younger persons.

The 1990 census data showed that the rapid growth of the older population that initially triggered the agency's efforts to focus on older person traffic safety continued and if anything accelerated. From 1980 to 1990 the population over age 65 increased 20.9% while the general population grew by just 9.2% percent. While this difference is substantial, it will be overshadowed by changes projected by the U.S. Census Bureau for the future. For the decade from 2010 to 2020, the overall population increase is expected to be 8.2 percent, while the over 65 year old population is expected to grow by 35.1 percent!

In response to the continuing and growing older person traffic safety problem, the agency prepared this Traffic Safety Plan for Older Drivers. It describes major agency efforts in Problem Identification, Program Development, and Program Evaluation activities intended to improve the safety of older drivers, vehicle occupants, and pedestrians. It follows the information presented in "Addressing the Safety Issues Related to Younger and Older Drivers, A Report to Congress," February 1993.

As with earlier efforts, the projects summarized in this plan continue to involve other Department of Transportation agencies, including the Office of the Secretary of Transportation, the Federal Highway Administration, and the Federal Transit Administration regarding projects in such areas as pedestrian safety, alternative transportation systems, and driver/highway interface. The plan also involves the highly specialized expertise found in other government agencies, including the National Institute on Aging, the Administration on Aging, and the Centers for Disease Control. In addition, NHTSA will continue to involve non-government organizations familiar with the needs and concerns of older persons as appropriate.

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Problem Identification

1. Establish the Crash Risk for Specified Medical/Functional Conditions

   This project, begun during 1992 with Oak Ridge National Laboratories, will determine the conditions under which older drivers pose a threat to public safety and therefore need to be identified and made subject to license control. The study will establish a statistical link between crash risk, moving violations, and physical or mental conditions. It will also identify the extent to which individuals with conditions that affect driving performance correctly modify their driving behavior.

Estimated time:	Initiation - Fall 1992 Completion - Fall 1994

2. Determine If Older Drivers Adequately Self-Regulate

   NHTSA will determine the characteristics of drivers who do and do not adequately self-regulate, and also the conditions, if any, under which these drivers may be able to drive while preserving safety.

Estimated time:	Initiation - Fall 1994 Completion - Fall 1996

3. Document the Mobility Consequences of Relinquishing the Driver License

   This research, expected to be conducted jointly with the Federal Transit Administration and the Administration on Aging, will document the broad array of concerns expressed by older persons who surrender their driver license, and will prepare materials for use by local community planners in assessing available transportation remedies that address these concerns.

Estimated time:	Initiation - Fall 1994 Completion - Spring 1996

4. Analyze Vehicle Crashworthiness for Older Occupants

   NHTSA will analyze crash data to compare the injuries older persons receive when they are restrained with lap and shoulder belts and/or air bags, in contrast to the injuries sustained by similarly restrained younger persons. Since older occupants are more likely to be involved in side impact crashes, NHTSA also will monitor the changes in injury to older and younger vehicle occupants to determine the relative effectiveness of the side padding and structural improvements that manufacturers will be installing as the new dynamic side impact regulation is phased into passenger cars in the next few years.

Estimated time:	Initiation (Restraints) - Fall 1992 Initiation (Side Impact) - Fall 1994 Completion (Restraints) - Spring 1995 Completion (Side Impact) - Fall 1998

5. Identify the Causes of Older Driver Intersection Crashes

This research will investigate the causes of older driver crashes at intersections, especially those involving left turns. The findings from this research will become the basis for new informational or training materials for older drivers.

Estimated time:	Initiation - Fall 1993 Completion - Fall 1995

6. Identify Barriers to Physician Referral of Patients for License Re-exam

This project will investigate the legal, ethical, and practical barriers to effective reporting by physicians of suspected diminished driver capacity and will examine ways to improve safety by improving the reporting requirements by physicians. This analysis will include an investigation of the safety and mobility impacts in States with different reporting requirements.

Estimated time:	Initiation - Fall 1995 Completion - Fall 1996

7. Identify the Practical Problems with Family or Friends' Reporting of Suspected Diminished Driver Capacity

This study will examine the practical effects of the existing State laws that either require or prohibit families' and friends' reporting of a potentially unsafe driver. Some States require that the driver called in for re-examination be given the name of the individual who reported the unsafe driving. This project will recommend improvements for these various State reporting laws.

Estimated time:	Initiation - Fall 1995 Completion - Fall 1996

8. Identify Specific Vehicle Design Practices that Enhance Older Driver Crash Avoidance

Crash avoidance and older drivers will be addressed as a dedicated research program with the following major objectives:

1. Assess research needs and opportunities relating to older driver safety, with emphasis on vehicle design practices and potential countermeasures.

2. Develop methodologies and perform research on the effect of vehicle design practices, including advanced technology countermeasures, on older driver crash involvement.

3. Recommend specific vehicle design practices, including crash avoidance countermeasures.

In addition to this research on specific vehicle design practices, Project #15 will continue, on an on-going basis, to consider the needs and functional limitations of the older driver in virtually all NHTSA crash avoidance research.

Estimated time: Initiation - Spring 1993
Completion - Spring 1997

Program Development

9. Develop Performance Assessment Techniques

This project will produce tests that will more closely duplicate driving situations faced by older drivers. The products developed will be field tested prior to any generalized distribution. The purpose of these tests will be to better detect problem older drivers than the generalized tests typically in use today. In particular, functional limitations that are most often the result of medical conditions will be identified through these new testing procedures.

Estimated time: Initiation - Fall 1993
Completion - Winter 1997-8

10. Develop Ways to Meet Mobility Needs of Older Former Drivers

This project is expected to be conducted in cooperation with the Federal Transit Administration and the Administration on Aging. It will use the results from Project #3 to produce strategies for meeting the transportation needs of older people who can no longer drive. This project will prepare informational packages, training materials, and guidelines designed for use by State and local officials.

Estimated time: Initiation - Fall 1996
Completion - Fall 1998

11. Develop Improved Intersection Negotiating Practices

NHTSA will develop behavioral and other solutions for improving intersection negotiating practices by older drivers. This project will utilize the findings from Project #5 to develop informational and training programs for older drivers that are designed to help them compensate for their limitations.

Estimated time: Initiation - Fall 1995
Completion - Winter 1997-8

12. Develop Empirical Guidelines for Medical Practitioners

This research will build on the conclusions and findings from Projects #1, 2, 3, 4, 6, and 7 to develop practical guidelines for physicians and other medical practitioners based on NHTSA epidemiological data. These guidelines will provide the medical community with clear criteria on when and whether a patient's driving should be curtailed or stopped based on physical or psychological findings. These guidelines will replace current medical practice that relies upon an individual's "best professional judgement" rather than upon empirical data.

Estimated time:	Initiation - Fall 1996
	Completion - Spring 1998

13. Develop Materials for Use by Older Drivers in Making Their Driving Decisions

NHTSA will use the results of Projects #1, 2, 3, 7, 9, and 10 to develop materials that will assist older drivers in determining when they have driving problems. This will be done in a number of ways, including offering "self-test" procedures that individual drivers may use to identify the extent to which they should limit their driving. These materials will also assist families, caregivers, and law enforcement personnel to identify drivers who present symptoms that impact the ability to drive safely. Finally, this project will develop materials for use by testing centers that will provide independent counsel to older drivers on their ability to continue driving.

Estimated time:	Initiation - Fall 1997
	Completion - Fall 1999

14. Develop Training and Information Programs

NHTSA will use the results of projects #1,2,3,7, and 9-13 to prepare instructional materials to aid older drivers in safely meeting their mobility needs. This study will also examine existing training programs such as those that now teach stroke or head injured patients to drive again to ascertain the extent that such programs successfully reduce unsafe driving behaviors. This study will determine if these programs with or without modifications are transferrable to re-training of functionally limited older drivers, and will prepare training programs to be offered by national organizations to their older members.

Estimated time:	Initiation - Fall 1998
	Completion - Fall 2001

15. Consideration of Older Drivers in All Crash Avoidance Research

NHTSA's crash avoidance research program emphasizes the assessment of vehicle design practices that influence driver performance and crash involvement. In virtually all such research, the older driver is considered as a critical component of the driver population. This research considers both "conventional" design features (e.g., lights, mirrors, brakes), as well as advanced technology such as Intelligent Vehicle Highway System (IVHS) devices. NHTSA recognizes that IVHS may be a "double-edged sword" for the older driver. While opportunities exist for safety improvements, some IVHS applications could have the potential to *degrade* older driver safety by distracting or confusing the older driver with excessive warnings or other information. The National Advanced Driving Simulator will be a valuable research tool in this activity.

Estimated time:	Initiation - Summer 1991 Completion - Continuing

16. Develop Safety Information Materials and Safe Pedestrian Zones for Older Pedestrians

Based on pedestrian accident data compiled jointly by NHTSA and the Federal Highway Administration (FHWA), pedestrian safety materials were prepared for dissemination by organizations to large groups of older persons. Analyses of these accident data also showed that pedestrian accidents tend to be clustered together in "zones." This current project is being conducted jointly by NHTSA and FHWA. It identifies safe pedestrian zones, and saturates them with a mix of safety information materials and traffic engineering countermeasures. The materials and countermeasures will be demonstrated in selected sites prior to general distribution.

Estimated time:	Initiation - Summer 1990 Completion - Winter 1995-6

Program Evaluation

17. Evaluate Driver License Re-examination Requirements

This study will evaluate the outcomes of the different existing State driver license examination requirements that pertain to older drivers. Some States require older drivers to personally appear for license renewal so licensing officials can directly observe driver behavior, while other States permit older drivers, especially those with clear driving records, to renew by mail. This study will evaluate the safety benefits of these varying requirements.

Estimated time: Initiation - Fall 1993
Completion - Fall 1996

18. Evaluate NHTSA/AAMVA Model Driver Screening and Evaluation Program

This project will document and evaluate the safety outcomes of a program that will use the conclusions from Projects #1, 2, 3, 6, 7, 9, 10, 12, and 13 to develop a set of guidelines for use by State driver licensing agencies to assist in detection and regulation of problem drivers.

Estimated time: Initiation - Fall 1997
Completion - Fall 2001

19. Evaluate Medical and Community-Based Appraisal of Driving Limitations

This study will use the results from Projects #1, 2, 3, 6, 7, 9, 10, 12, and 13 to evaluate the safety outcomes of the medical community's actions in limiting the driving activity of functionally impaired drivers, and the functionally impaired driver's own limiting of the driving activity.

Estimated time: Initiation - Fall 1998
Completion - Fall 2001

20. Evaluate Programs that Maintain Former Driver Mobility

This study will evaluate the results of Project #9 to determine if programs developed for the purpose of assuring that older former drivers successfully maintain their mobility have attained that goal.

Estimated time: Initiation - Fall 1997
Completion - Fall 2001

U.S. Department
of Transportation
**National Highway
Traffic Safety
Administration**

Addressing the Safety Issues Related to Younger and Older Drivers

**A Report to Congress
January 19, 1993**
on the
Research Agenda
of the
National Highway Traffic
Safety Administration

This Report Was Prepared by the
Office of Program Development and Evaluation
Traffic Safety Programs

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Addressing the Safety Issues Related to Younger and Older Drivers

Issues Related to Younger and Older Drivers

The Committee on Appropriations of the U.S. Senate, in Senate Report 102-148, requested the National Highway Traffic Safety Administration (NHTSA) to prepare a report on the Agency's research agenda addressing the safety issues of younger and older drivers. In response to this request, this report covers a variety of issues that affect younger and older drivers, presents a brief overview of past Agency efforts, and provides NHTSA's planned research agenda for each group separately. In this report, "younger" refers to ages 15 through 24, while "older" refers to ages 65 and above.

NHTSA conducts behavioral research to increase safety by improving safe driving actions, and performs biomechanics and human-factors research to increase safety by improving vehicles. Behavioral programs are used by the States and national organizations. Engineering results are implemented through Agency rulemaking actions for vehicle manufacturers.

The Agency has long been aware of the problems of younger drivers and the special needs of older drivers. In developing program activities, NHTSA has formed working relationships with a variety of Federal, State, and private sector organizations, including the Federal Highway Administration, National Institute on Aging, Transportation Research Board, American Association of Motor Vehicle Administrators, State licensing and driver education agencies, and the American Association of Retired Persons, among others.

Assessment of crash statistics indicates that young driver problems vastly exceed any other age group. On a per-mile basis, older drivers do have a greater fatality rate than other-aged drivers. But by any other measure, young drivers outnumber, out-travel, out-crash, and die more frequently than do older drivers. There are slight differences between younger and older drivers in the types of crashes they experience. For example, young drivers have more speeding and alcohol-related crashes. Older drivers have more right-of-way and turning crashes. Younger driver crashes are frequently caused by inexperience, poor judgment, and risk taking while older driver crashes are more often related to reductions in physical and cognitive capabilities of which the driver is unaware.

Research Agenda For Younger Drivers

Historically, the Agency has worked to improve the safety of young drivers through education and training, licensing procedures, enforcement, and adjudication. Within the recent past, the emphasis has been on alcohol, occupant protection, and community programs.

Future efforts will attempt to improve understanding of unsafe driving by younger drivers, including risk taking behavior, influences of youth culture, and pressure from peers. The Agency will develop programs, activities and procedures, including improved enforcement and adjudication procedures, develop educational materials designed for specific subpopulations of younger drivers, and involve parents to help build safe driving habits in their children. Evaluations will be conducted to assess the impact of programs intended to reduce crashes, including provisional licensing and lower BAC limits for those under age 21.

In addition, research will assess the use of advanced technologies to reduce the crashes of younger drivers. Applications for technology include the use of driving simulators to gather detailed information on drivers' behavior in high risk situations and the use of warning systems to alert drivers to impending dangers.

Research Agenda For Older Drivers

More than a decade ago, the Agency developed profiles of older driver crashes and recommended educational and licensing practices. NHTSA worked with the American Association of Motor Vehicle Administrators in developing guidelines for the States to use when dealing with driving problems that may be related to aging. Unfortunately, many of these efforts lacked detailed information on the difficulties caused by aging, including the loss of cognitive abilities, and the relationship of these problems to safe driving practices.

In the future, the Agency's efforts will focus on identifying and analyzing research data linking declining physical and mental capabilities of older individuals to their driving safety. Following these activities, NHTSA will recommend appropriate driving practices for persons with various conditions and develop information to assist them in making safe driving choices (including restricting when and where one drives). Additionally, the Agency will develop guidelines for families, medical practitioners, traffic enforcement, and licensing agencies to identify those older individuals who have driving problems. Agency efforts will also develop enhanced driver education and training program elements (e.g., to improve performance at intersections). NHTSA will work to cultivate licensing and enforcement policies that protect the public's safety while maintaining the mobility of older drivers, including improved procedures and practices for problem drivers. NHTSA will continue to work with other Federal, State, and private organizations to stimulate research and a better understanding of the issues affecting the safety and mobility of older drivers.

NHTSA will also assess the use of improved technologies and vehicle crashworthiness characteristics. For example, crash data will be used to improve understanding of the injuries sustained by older occupants because of their increased frailty, including an evaluation of current occupant restraint systems. NHTSA will also investigate the possible role of advanced technologies to prevent crashes typical of older drivers. It is important to determine that technologies arising from Intelligent Vehicle & Highway Systems (IVHS) do not, in fact, overload the decision-making and informational capacities of older drivers.

Foreword

Anyone who has purchased automobile insurance for a driver under 25 years of age knows that many drivers in this age group are substantially over-represented in motor-vehicle crashes. Just about any way you look at younger drivers, whether on the basis of their numbers in the population, numbers of licensed drivers, or number of miles they drive annually, their crash rates are higher than other age groups. Not only do young drivers have more crashes than other age groups, they receive more than their share of citations for traffic violations. While not all younger drivers are unsafe drivers, many younger drivers pose safety problems that are obvious to most observers.

Many people believe that older drivers are a menace on the road, especially when they find themselves behind an older person driving slower than other traffic. These opinions can only be strengthened by news and feature-program coverage of tragic events in which an older driver was responsible for multiple deaths. But these events, though tragic, are rare. Drivers over 75, like younger drivers, are involved in more crashes per mile driven than drivers in any other age group. After the age of about 60, drivers and passengers are increasingly likely to die as a result of crash injuries because they are more frail than younger persons. This is true even though the number of crashes per licensed driver declines with age. While not all older drivers are safe drivers, safety problems posed by older drivers are less obvious and are often different from what many people believe.

Even though younger and older drivers share the distinction of having more crashes per mile driven than other age groups, the problems posed by these two groups stem from different origins and are manifested in different ways. And, perhaps more important, the magnitudes of the problems presented by each group are vastly different.

These differences hold major implications for NHTSA's research program. While the magnitude of the older-driver problem is relatively small, potential solutions are well defined and simple to achieve. Although younger drivers present the most serious problems, the potential solutions are diverse and difficult to achieve.

As requested by the Committee, this report presents NHTSA's research agenda for addressing the issues related to the safety of younger and older drivers. Chapter 1 provides a summary of the issues related to younger and older drivers. Chapters 2 and 3 report on NHTSA's research program on younger and older drivers, respectively. Each of these chapters summarizes the status of work done to date; outlines the problems that currently remain; and describes the research actions needed to address those problems.

The Agency regards each of the projects or study areas described in the report to be essential for reaching our safety objectives for these age groups. However, the scheduling of the work will depend on available funding.

For the purposes of this report, the terms "young driver" or "younger driver" refer to drivers aged 15 through 24 years of age, while "youngest drivers" refers to those 15 through 19 years of age. "Older drivers" refers to drivers aged 65 years and older, while "oldest drivers" refers to those 75 years of age and older.

CHAPTER 1

Issues Related to Younger and Older Drivers

The National Highway Traffic Safety Administration (NHTSA) has had a long-standing interest in improving the safety of both younger and older drivers, and in recent years has revitalized its interest in improving the safety of these groups.

NHTSA's Research Approach

NHTSA's approach to dealing with the problems of younger and older drivers proceeds on two fronts. First, each of these age groups is addressed in dedicated research projects that focus on physical and behavioral problems or practices. Second, younger and older drivers are treated as part of the continuum of the overall driver population in research that focuses on specific safety issues. The Agency's research and rulemaking activities focus on underlying traits responsible for the crash experience, not just using age *per se* as a discriminating variable.

NHTSA's research efforts on behalf of younger and older drivers may also be characterized by the ultimate goals of those efforts. The Agency conducts behavioral research to improve safe driving actions through such avenues as increasing knowledge and changing attitudes. It also conducts biomechanics and human-factors research to improve safety performance of vehicles through increased crashworthiness and improved crash-avoidance design features. Since vehicle improvements generally benefit occupants of all ages, behavioral research tends to be more focused on specific age groups than vehicle-oriented research.

The Agency's behavioral research findings are incorporated into model safety programs and disseminated through published guidelines or reports of demonstration programs and program evaluations. States and communities are encouraged to adopt these model programs and implement them through their own legislative or program actions. The findings of the vehicle-oriented research are implemented through Agency rulemaking actions, which require vehicle manufacturers to comply.

Congressional Direction

This report on NHTSA's research agenda for addressing the safety issues of younger and older drivers was requested by the Committee on Appropriations of the U.S. Senate in Senate Report 102-148, which contained the following language:

> The Transportation Research Board report entitled "Safety Research for a Changing Highway Environment" carefully documents the challenge to highway safety posed by both the older and younger populations. As the report notes, the high involvement rate of older drivers in crashes (on a mileage-driven basis) is second only to those of drivers under the age of 25. Although NHTSA has important programs focused on each of these populations, the Committee seeks to enhance these efforts. Consequently, the Committee requests that NHTSA submit a report detailing its research agenda on topics specifically addressing the unique safety issues related to the older and younger driver.

NHTSA Planning Documents

NHTSA has long been aware of the special needs of younger and older drivers. Accordingly, the Agency developed safety plans addressing each of these special populations some time ago. As information accrues and needs change, these plans are updated and revised. The request for this report came at a time when the Agency is extensively revising each of these plans. This section briefly summarizes the existing planning documents.

Young Adult Highway Safety Plan

NHTSA's existing plan for road users aged 15 through 24 describes Agency program and research activities that address the highway safety issues prevalent among young drivers. This plan was first published in 1990.

The purpose of the NHTSA Young Adult Highway Safety Plan was to create an organized and focused approach to the population most at risk on our nation's highways: the driver under the age of 25. The Plan represented an integrated multi-disciplinary approach to a complicated traffic safety problem.

The young adult program was built upon a model initially developed as part of the Agency's anti-drunk-driving program. This model addressed the young adult highway safety problem in the areas of enforcement, adjudication, supervision, legislation, licensing, school-based programs, school-based extra-curricular programs, community based programs, and work-place based programs. These approaches were directed at the following priority areas: alcohol and other drugs, occupant protection, driver licensing, and motorcycles.

The output from this approach resulted in a presentation of (1) programs focused on a single issue; (2) comprehensive programs focused on two or more issues;

and (3) research and development activities. This research effort is intended to identify attitudes and behaviors characteristic of young adults to aid us in developing increasingly effective strategies for dealing with this population segment.

Many of the long-term research activities described in the Plan have been completed or have provided sufficient new information in the area of problem identification. Some projects described have been completed and new ones have been initiated. The Agency is currently revising this Plan to reflect accumulated progress and to accommodate the findings of completed activities. The revision will be completed during Fiscal Year 1993.

Traffic Safety Plan for Older Persons

NHTSA's Traffic Safety Plan for Older Persons addresses drivers, vehicle occupants, and pedestrians. The Agency developed the Plan in 1988 in response to recommendations in the Transportation Research Board's (TRB) Special Report #218, *Transportation in an Aging Society*. The Plan was developed to provide a comprehensive, coordinated program for improving the safety of older persons, while achieving a balance between safety and mobility.

NHTSA's Plan responded to the TRB report's recommendations and provided details of other work deemed necessary to improve the safety of older persons. It called for conducting research in problem identification, occupant protection, driver licensing, pedestrian safety, consumer information and vehicle safety.

NHTSA has completed many of the activities described in the Plan and conducted additional problem-definition activities, including co-sponsoring an international conference on research needs of older drivers. The results of these activities produced new knowledge about older-driver problems that suggested improved ways of addressing both safety and mobility issues. This research has significantly refined the older person traffic safety issues and provided information to older person groups in both driving and pedestrian areas.

The Plan was designed to encourage close working relationships with other Federal agencies, the States, and additional concerned groups. While implementing the Plan, NHTSA has established lines of coordination across both State and Federal government agencies and private-sector groups. These connections have stimulated and guided research activities by other organizations well beyond the level that this Agency would be able to support.

The 1988 Plan for older persons is undergoing a major revision, and is scheduled to be completed during Fiscal Year 1993.

Characteristics of Younger and Older Drivers

The foundation of all traffic safety research is a thorough analysis of relevant data to identify problem areas and define populations needing special attention. The appropriateness and effectiveness of countermeasure development rests on this foundation. This section summarizes the Agency's findings regarding the level of crash involvement of younger and older drivers, and characteristics of the crashes that differentiate between the two age groups. Additionally, this section presents information on differences in performance abilities that distinguish the two groups.

Involvement in Crashes

An evaluation of the relative magnitudes of the crash problems contributed by younger and older drivers indicates that younger-driver problems vastly exceed older-driver problems. Figures 1 through 7 summarize crash data from NHTSA and Federal Highway Administration (FHWA) sources.

Figures 1 and 2 show, respectively, the number of drivers and the distance that they travel by age group. The similar shape of these two curves shows that the mileage traveled by each age group is closely related to the number of drivers in the age group. In 1990 there were slightly more than 26 million licensed drivers, ages 15 through 24, and about 22 million licensed drivers, 65 years of age or older. Although younger drivers only slightly outnumber older drivers (16 percent to 13 percent of the population of licensed drivers, respectively), the younger group drove more than twice as many miles as the older group.

Figure 1. Number of Licensed Drivers by Age Group

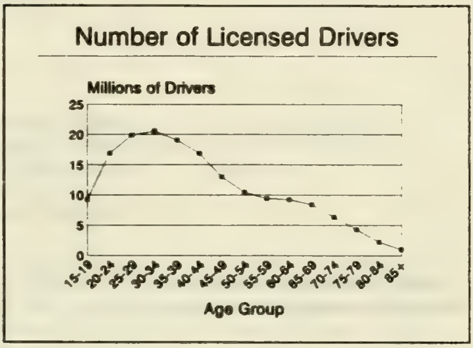
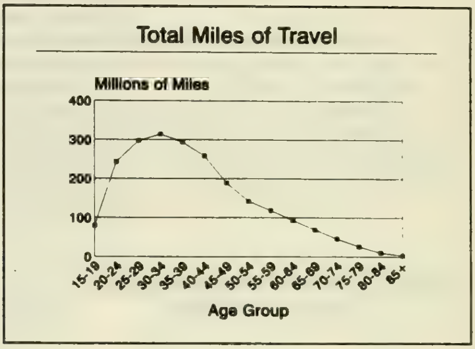
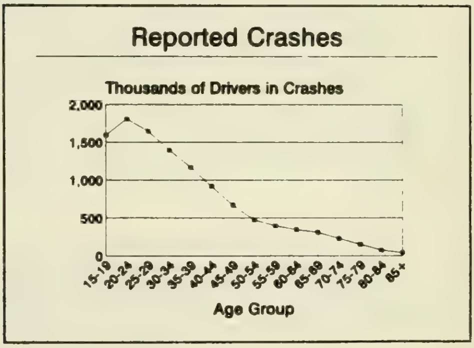


Figure 2. Total Miles of Travel by Age Group



Figures 3 and 4 show, respectively, the number of drivers in reported crashes and the number of fatalities resulting from those crashes. The shapes of these two curves are also nearly parallel, showing that the relationship between crashes and fatalities is roughly the

Figure 3. Number of Drivers in Reported Crashes by Age Group



same for all but the older drivers. Younger drivers were involved in four times as many reported crashes as the older group. They also were involved in three times as many fatal crashes as older drivers. Compared with older drivers, more than twice as many younger drivers died.

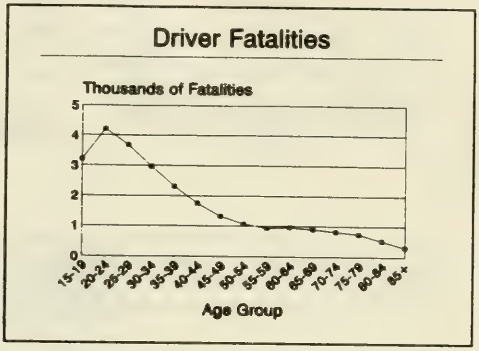
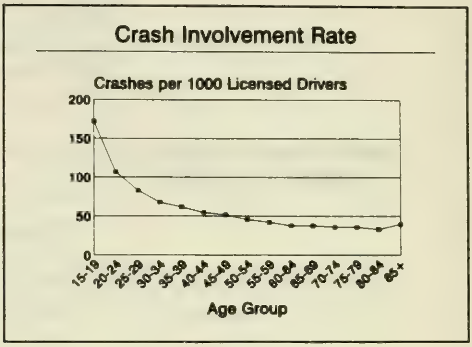


Figure 4. Number of Driver Fatalities by Age Group

Figure 5 shows that after the number of crashes is adjusted for the number of licensed drivers in the age group, younger drivers are considerably more likely to be involved in a crash than are older drivers. In fact, the **per-person** crash involvement rate decreases as age increases until drivers reach 85 or more years of age. Even this age group has a per-driver crash rate lower than drivers younger than 50 years of age.

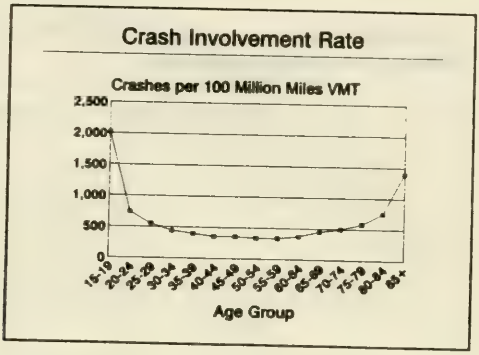
Figure 5. Crash Involvement Rate per Thousand Licensed Drivers by Age Group



While the **per-person** rates reflect a smaller proportion of older drivers involved in crashes than younger drivers, adjusting the number of crashes by the total mileage traveled by members of each age group reveals a different pattern. Figure 6 shows the number of crashes per 100-million miles traveled. This curve indicates that the highest **per-mile** crash rates occur among the youngest and the oldest age groups. This demonstrates that an "average mile" driven by a member of one of these two groups is more dangerous than an "average mile" driven by a member of an intermediate age group.

However, since drivers at either end of the age range drive far fewer miles than those in between, researchers have questioned the equality of those "average miles" across age groups. Unlike younger and older drivers, drivers in the intermediate age groups travel a sizeable proportion of their annual miles on expressways and other inter-city roadways. These types of roads typically offer fewer hazards than do roads in urban areas. Most of the miles driven by younger and older drivers involve congested areas and heavy concentrations of intersections that offer relatively more opportunities for conflict with pedestrians and other vehicles.

Figure 6. Crash Involvement Rate per 100 Million Miles VMT by Age Group



Fatality rates reveal that older drivers are at increased risk of dying, whether the rate is based on the number of licensed drivers (shown in Figure 7) or on the total vehicle miles traveled (shown in Figure 8).

Figure 7. Fatality Rate per Thousand Licensed Drivers by Age Group

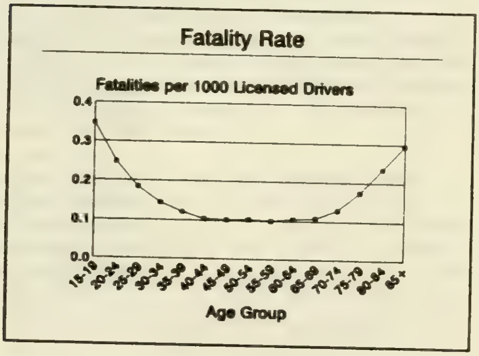
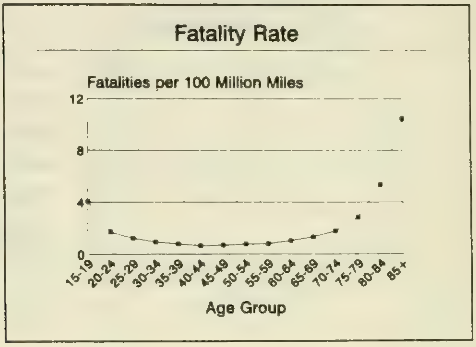


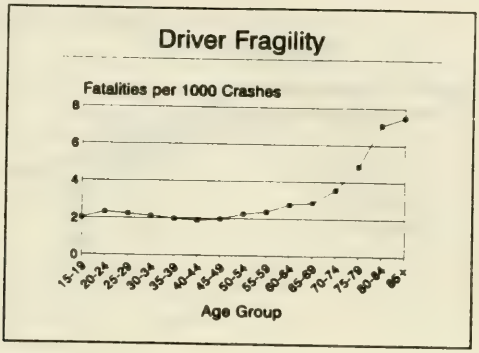
Figure 8. Fatality Rate per 100 Million Vehicle Miles Traveled by Age Group



If drivers of any age were equally likely to die from crash injuries, then the shape of Figure 7 should be the same as Figure 5. This condition appears to hold for drivers below the age of 60 or so. However, drivers older than 60 years of age show increasing fatality rates, indicating that older drivers suffer more serious injuries in crashes than do younger drivers. This increase in driver fragility with age is shown more clearly by plotting the rate of fatalities per crash by age, as in Figure 9.

On a per-mile basis, older drivers have a greater fatality rate than other-aged drivers. But by any other measure, younger drivers outnumber, out-travel, out-crash, and out-die older drivers. However, once they are in a crash, older drivers are more than three times as likely to die than are younger drivers.

Figure 9. Driver Fragility by Age Group



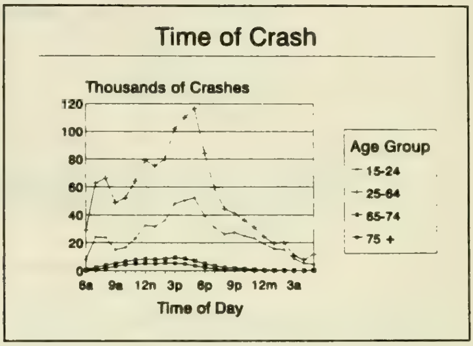
Characteristics of Crashes

By looking at the *relative proportions* of involvement in different types of crashes, it is possible to gain some understanding of the differences and similarities between age groups, independent of the *absolute levels* of involvement. Analysis of police crash reports contained in NHTSA's 5-State Crash Avoidance Research Data File (CARDFILE) reveals some striking differences and some surprising similarities between the crash patterns of younger and older drivers.

Time of Day

Figure 10 shows the hour-by-hour pattern of crashes by drivers of different ages. The younger-driver crash pattern does not differ much from that of drivers between the ages of 25 and 64, showing the majority of crashes occurring between 7:00 a.m. and 8:00 p.m., with a small peak during the hours of morning rush hour and a large peak during evening rush hour. After 8:00 p.m., the number of crashes declines slowly to a minimum around 4:00 a.m. (for 25 to 64 year-old drivers) or 5:00 a.m. (for 15-24 year-old drivers). Older drivers, on the other hand, have few crashes between 8:00 p.m. and 7:00 a.m. The crash patterns of older drivers do not show rush-hour peaks, but rather a slow increase in number from 7:00 a.m. to about 11:00 a.m., remaining flat until about 4:00 p.m., and slowly decreasing until around 8:00 p.m.

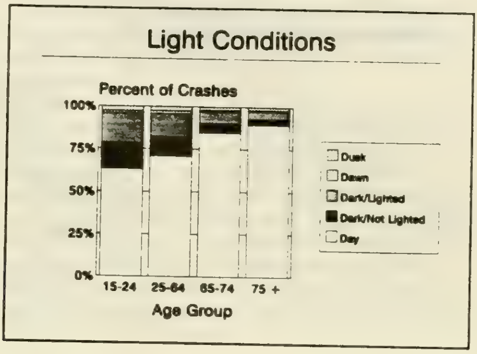
Figure 10. Number of Crashes by Time of Crash and Age Group



Light Conditions

The relationship between crashes and lighting parallel the patterns of crashes by time of day. Well over half of all crashes occur during daylight hours. However, the relative proportions of daylight and dark crashes vary with age, as shown in Figure 11. The 15 to 24 age group has one in three (33 percent) of their crashes after dark. Drivers between 25 and 64 have one in four (25 percent) crashes after dark. Drivers between 65 and 74 have one in eight (12.5 percent) of their crashes after dark, and the oldest group (75 years of age or older) has one in twelve (8.3 percent) crashes after dark. These results follow the reported driving habits of older drivers: they tend to drive less and less after dark as they get older. Many do not drive after dark at all.

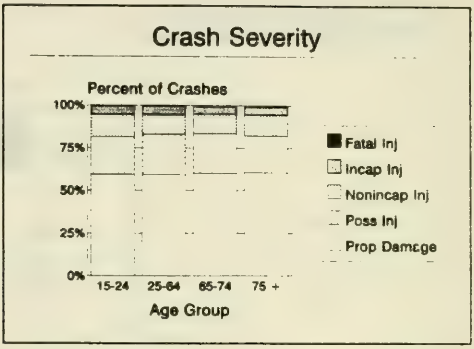
Figure 11. Percent of Crashes by Light Conditions and Age Group



Crash Severity

Remarkably, the distribution of crash severity is almost identical across age groups, as shown in Figure 12. About 60 percent of all crashes involve property damage only; 22 to 23 percent involve possible injury; 12 percent non-incapacitating injury; 5 percent incapacitating injury; and fewer than one percent of crashes involve fatal injury. Among the fatal-injury crashes, the level of involvement increases with age, with 0.6 percent for drivers 15 to 64; 0.7 percent for drivers 65 to 74; and 0.9 percent for drivers 75 and older.

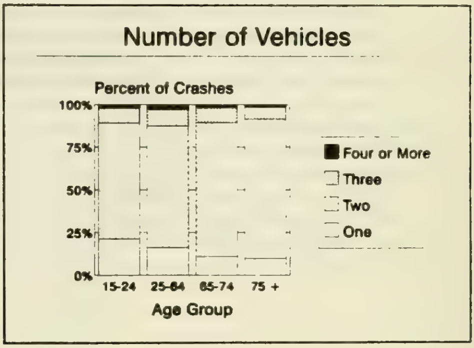
Figure 12. Percent of Crashes by Severity Level and Age Group



Number of Vehicles Involved

The majority of crashes involve two vehicles, regardless of drivers' age, as shown in Figure 13. Among younger drivers, two-vehicle crashes account for 68 percent of all crashes, compared with 71 percent of drivers 25 to 64,

Figure 13. Percent of Crashes by Number of Involved Vehicles and Age Group

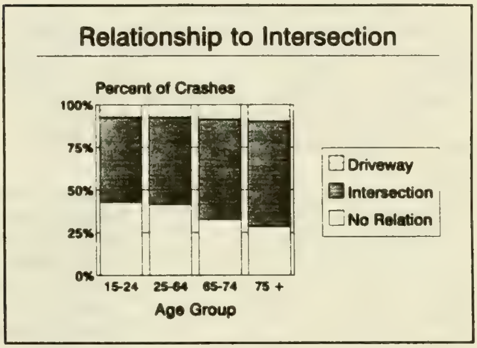


and 80 percent of drivers 65 and older. The percentage-point differences between age groups on two-vehicle crashes are largely made up in single-vehicle crashes. Proportions of single-vehicle crashes from the youngest to the oldest are 21 percent, 16 percent, and 10 percent, respectively.

Relationship to Intersection

Most crashes for all age groups occur at intersections, although the proportions are somewhat different for the different groups, as shown in Figure 14. About 50 percent of crashes of the youngest and middle groups occur at intersections, whereas about 60 percent of older drivers' crashes occur at intersections. Younger drivers show a greater tendency than other age groups to be involved in non-intersection crashes, with 15-24 age group showing 43 percent, the 25-64 group showing 41 percent, and the 65-74 group showing 31 percent.

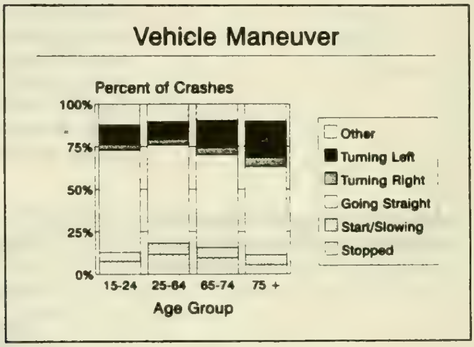
Figure 14. Percent of Crashes by Relationship to Intersection and Age Group



Pre-crash Maneuver

More than half of the crashes of all age groups involve the vehicle going straight just prior to the crash, accounting for 59 percent of the youngest group's crashes, 57 percent of the middle group's crashes, and 53 percent of the oldest group's crashes. These proportions are shown in Figure 15. The most striking difference between the groups is in the proportion of crashes involving left turning. While 11 percent of younger drivers' crashes involved left-turning, 17 percent of older drivers' crashes involved left-turning. Within the older driver group, the oldest drivers show the greatest proportion of crashes in this category, involving 16 percent of 65-74 year-old drivers' crashes and 21 percent of the crashes of drivers 75 years old or more.

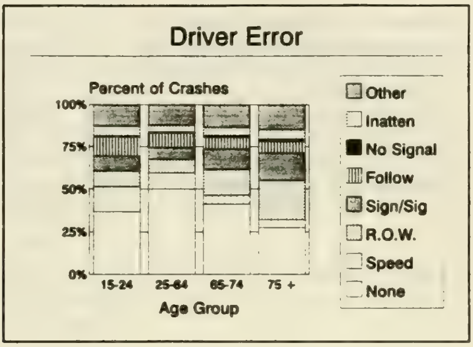
Figure 15. Percent of Crashes by Vehicle Maneuver and Age Group



Driver Error

Excessive speed is the primary error in 15 percent of younger-driver crashes, but only in about 5 percent of older-driver crashes, as shown in Figure 16. Right-of-way violations are the primary error in 18 percent of older-driver crashes, but only in about 9 percent of younger-driver crashes. Older drivers also make more errors at signed or signalized intersections than do younger drivers: 14 percent and 9 percent respectively. Driver inattention, which includes falling asleep at the wheel, was about equally likely among younger and older drivers, accounting for slightly more than 5 percent of crashes in each group.

Figure 16. Percent of Crashes by Driver Error and Age Group

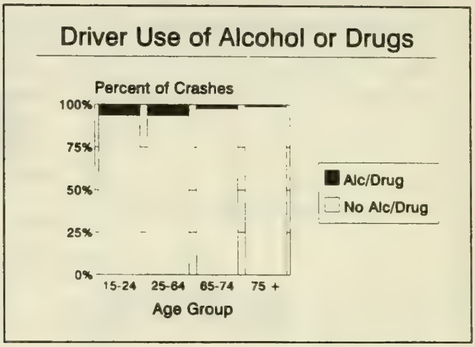


Alcohol Involvement

Blood Alcohol Concentrations (BAC) at or above .10 percent are detected in about 6.5 percent of crash-involved younger drivers. Drivers between 25 and 64 years of age also show BACs at or above .10 percent in 6.5 percent of their crashes. Older drivers, however, show BACs at or above .10 percent in less than 2 percent of their crashes. These relationships are shown in Figure 17.

Alcohol plays a much larger role in fatal crashes. One out of 10 fatal crashes in 1990 involved drivers or pedestrians with BACs between .01 and .09 percent, while 4 of 10 involved drivers or pedestrians with BACs at or above .10 percent. Twenty-seven percent of young drivers in fatal crashes had BACs at or above .10 percent, compared with 26 percent of drivers between 25 and 64, and 6 percent of drivers 65 years old or older.

Figure 17. Percent of Crashes by Driver Use of Alcohol or Drugs and Age Group



Sources of Risk for Younger Drivers: Problem Behaviors

The primary problems of drivers between 15 and 25 years of age appear to be related to lack of experience, immature judgment, and risk taking. Younger drivers have limited life experience to rely upon in developing responses to the driving environment.

Some researchers contend that younger persons, especially in the teen years, have a sense of immortality and invulnerability to danger that carries over into their driving behaviors. Younger drivers tend to believe that crashes only happen to others. Some younger individuals also tend to display other characteristics that foster unsafe driving. Younger drivers perceive risk differently than older drivers. A NHTSA study found that younger drivers rated speeding as less dangerous than did their more experienced counterparts. There also was evidence that young drivers saw themselves as more skillful than their peers, and that young drivers' increased familiarity with a driving location reduced their perception of danger in that situation. This was not found for more experienced drivers. The findings suggested that, relative to drivers over 25 years of age, young drivers associated lower risks with certain driving acts and underestimated their personal risk of being involved in a crash.

Personality factors, particularly among males, may also contribute to the young driver problem. The literature includes references to over-expression of impulsiveness, daredevil driving, anger in traffic situations, and driving to let off steam after arguments. There also are weak but consistent correlations between various "anti-social" personality traits (more common among the young than other age groups) and higher crash rates.

Sources of Risk for Older Drivers: Declining Capabilities

The research literature confirms conventional knowledge about the effects of aging on cognitive, perceptual, and motor abilities.

Age-related changes in vision make it more difficult for older adults to accommodate to darkness, recognize objects under low lighting conditions, recover from glare, and search their environment. Virtually all behavior slows with age, with performance decrements being more pronounced as task complexity and cognitive demands increase. Making decisions becomes more difficult, as does changing a course of action once a commitment has been made. Memory deteriorates with age, although the decline in healthy adults is not as great as previously believed. Short-term memory, in particular, is affected by aging. While few studies linked cognitive declines specifically to driving abilities, it is clear that these kinds of changes in abilities could pose problems for drivers who experience them.

Experience and judgment are qualities that can contribute to compensating for slowed responses and sensory deficiencies. Evidence shows that most older drivers are aware of their changing abilities and adapt accordingly: making shorter trips totaling far fewer miles, and driving substantially less at night, in heavy traffic, and in bad weather. These self-regulated changes in exposure to risk largely account for the differences in crash characteristics between younger and older drivers.

Driving problems increase with the seriousness of certain medical conditions. To the extent that older individuals are aware of their conditions, they tend to limit their driving appropriately. But, if they are victims of conditions of which they cannot be aware, they appear not to limit their driving and are consequently exposed to greater crash risk. Cognitive disorders, such as Alzheimer's Disease and difficulties performing tasks that require processing of several sources of information are among the most serious of these latter conditions.

Older drivers' safety problems are exacerbated by increasing frailty. Drivers 75 years old or older are three times as likely to die in a crash than are 20 year old drivers.

CHAPTER 2

Research Agenda For Younger Drivers

The primary safety issues related to drivers between the ages of 15 and 24 are inexperience, immaturity, and risk taking. Education and training have achieved limited demonstrated success in reducing the unsafe driving behaviors of young drivers. The apparent disregard for one's own personal safety appears to be a defining element of youth.

Effective methods to restrain impulsive, risky behaviors have traditionally concentrated on law enforcement, license restriction or denial, or other aversive controls. The effectiveness of these approaches is limited by the resources communities can devote to them.

The Agency's research and programmatic activities for younger drivers are based on the analyses of safety problems posed by this age group. The diversity of current research directions reflects the diversity of causes of and corrections for younger drivers' safety problems. This chapter includes a brief description of the Agency's previous research and programmatic activities and specifies the direction of future research on younger drivers. These activities are, for the most part, explorations of new approaches to dealing with younger driver problems. Although they are not as well defined as activities in a more mature research program, they hold tremendous potential for dealing with the safety problems of younger drivers.

Summary of Prior Research

Historically, NHTSA has pursued a multi-faceted approach towards reducing crashes among younger drivers. During the last twelve years, however, NHTSA's behavioral research activities related to younger drivers have focused almost exclusively upon alcohol and under-age drinking, with some attention to occupant-protection issues. The course of this effort is currently expanding to include many broader issues, including cultural norms, peer influence, and risk-taking attitudes.

In the past, the Agency has worked to improve highway safety among this population through institutional actions (e.g., education and training, licensing procedures, enforcement, and adjudication) based on increased understanding of individual beliefs, attitudes, and knowledge supporting highway safety. NHTSA has developed technical knowledge and materials to support these actions, as well as methods for disseminating the information and providing technical support to safety professionals and others.

The following paragraphs highlight the most significant of these activities.

Driver Education

One of NHTSA's earliest objectives was improving the education and training of new drivers. Seminal studies identified behaviors necessary to operate a passenger car, and assessed how critical each behavior was to driving. The Agency used this information to develop two model high-school driver-education curricula, which NHTSA implemented in the 1970's.

NHTSA evaluated a large-scale demonstration of the curricula conducted in Dekalb County, Georgia. Over a 3-year period, students were randomly assigned to one of the two curricula or to a no-training comparison group. Students' driving records over the next six years of driving demonstrated a six percent reduction in crashes among drivers in the standard education programs.

The reasons why driver-education courses seem to have had only limited success as a crash reduction program are unclear. Some safety professionals have suggested that shorter programs focusing on specific topics would be more effective than traditional courses. Others have suggested a two-phase driver education integrated with driving experience.

NHTSA also has developed and tested short instructional programs (modules) intended to supplement driver-education instruction. These modules reliably increased knowledge and improved self-reported safe driving. Unfortunately, these modules were introduced at a time when school-based driver-education courses were suffering cutbacks due to tight school budgets and were not widely implemented as designed. Other completed NHTSA projects include preliminary preparation of a curriculum to provide collision-avoidance skills.

Driver Licensing

The driver licensing system is the key to integrating new drivers safely into the highway network and limiting the driving of those who pose safety problems. In order to ensure that the Agency's research and program activities are well accepted among State driver-licensing agencies, NHTSA works closely with the American Association of Motor Vehicle Administrators (AAMVA).

Research in this area has produced a model driver-improvement (point) system for identifying problem drivers and provides remedial instruction or imposes sanctions based on the severity of offenses. This system has been adopted to some extent by many State licensing agencies.

Driver licenses provide youth with a measure of status and independence. They also present social opportunities and other benefits. Thus, youths are highly motivated to obtain a driver license and to keep it. Provisional licensing programs take advantage of these realities by prescribing certain requirements (e.g., lower BAC thresholds, nighttime restrictions, safety belt use, no violations, etc.) to which provisional licensees must adhere in order to acquire and retain a regular driver license.

In conjunction with the AAMVA, NHTSA developed a model provisional-licensing program designed to ease novice drivers under the age of 18 into the driving environment. Provisional licensing enables these young drivers to gain knowledge, skill, and experience over time under controlled conditions.

Parts of the model program were implemented by the States of Maryland, California, and Oregon. Evaluations of these programs showed reduction in crashes and traffic convictions among the affected age group. However, despite the existence of the NHTSA/AAMVA model program, and evidence that provisional licensing can be effective, States have been reluctant to initiate such programs.

Attitudes

The young driver highway safety problem stems from more than a lack of knowledge or skills. Consequently, NHTSA has endeavored to identify and understand other characteristics of young drivers that contribute to the problem, so that appropriate countermeasures can be developed. The Agency has conducted preliminary research on risk-taking to determine how younger drivers perceive risk differently from more experienced drivers, and in what ways their risk choices differ from other drivers.

Other NHTSA research has examined norms and attitudes of adolescents and young adults related to alcohol use and driving. Respondents reported strong societal influences supporting drinking and driving after drinking. Respondents also lacked information on risk factors, assessing degree of impairment, and consequences of drinking and driving.

Recent national telephone surveys on drinking and driving issues conducted for NHTSA will provide additional information on attitudes, knowledge, and behaviors of this age group. Results of this research have not yet been released.

Enforcement

General deterrence is an important part of the Agency's young driver program. Recently completed NHTSA research explored the problem of low arrests and citations for underage drinking drivers, and identified barriers to effective enforcement of drinking and driving laws as they pertain to these drivers. Further, the study examined enforcement programs that appear to be successful in addressing the problem, identified general principles for effective enforcement of drinking and driving laws among underage drinkers, and developed an assessment package to assist police agencies in implementing effective enforcement practices.

Raising the minimum drinking age (MDA) for alcohol to 21 has led to substantial reductions in crash-related fatalities among young drivers. NHTSA has conducted research to identify feasible, acceptable, and effective programs to deter adolescent drinking in support of the 21 MDA. Experts and youths participating in the study largely agreed on which programs would be most effective. They included: (1) programs that suspend the driver license of underage drinkers or postpone the age at which individuals become eligible to receive a license; and (2) improvements in the design and distribution of driver licenses in order to reduce the use of fraudulent identification to obtain alcohol.

The Agency also has evaluated the effects of a Maryland law restricting persons under age 21 from driving with any detectable amount of alcohol in their system (current devices cannot detect BACs below .02 percent). The study found a reduction in the average number of under-

21 crash-involved drivers judged "had been drinking" by the police associated with the implementation of the law. Further, the effectiveness of the law was enhanced by the addition of a public information and education (PI&E) campaign that emphasized the possible penalties for violation of the regulation.

While the majority of the Agency's research on enforcement for young drivers has focused on alcohol, other efforts have been directed at other unsafe behaviors, most notably driving above posted speed limits.

Adjudication

NHTSA has been co-sponsoring workshops with judges to help them deal in a more effective manner with impaired driving issues both in the courts and in their communities. NHTSA also has been conducting research to validate an assessment instrument for determining if young drivers charged with violating drinking and driving laws would benefit from enrollment in alcohol-treatment programs.

Motorcycle Safety

Improving skills and protection of motorcyclists has been another important NHTSA objective. The problem in the motorcycle area is principally centered among young drivers. Motorcycle safety research has been concentrated in three major areas: operator testing and licensing, rider education, and helmet use, but has also included studies related to conspicuity enhancement, alcohol safety, and moped safety. A great deal of the motorcycle research has been done in conjunction with the Motorcycle Safety Foundation.

NHTSA research has provided much of the current knowledge on the nature of the motorcycle crash problem through a benchmark crash analysis study that identified causal factors of motorcycle crashes, and identified countermeasures for crash and injury prevention. More recent NHTSA research includes development of visual cues for police to detect DWI motorcyclists.

The bulk of current NHTSA efforts in the motorcycle area are support activities through cooperative agreements and grants. Current youth-specific demonstration grants include (1) a court referral program that requires violators to successfully complete a motorcycle rider education course; and (2) a program to encourage enrollment of younger cyclists in rider education courses, encourage use of protective gear, increase enforcement of DWI laws among motorcyclists, and reduce the number of younger motorcyclists riding without a proper license.

Community Programs

The Agency has sponsored a number of efforts to focus attention on younger drivers. In 1988, the Agency held regional youth traffic safety meetings attended by local, State and Federal officials. These meetings asked for recommendations on how to support more joint activities between alcohol, safety belt, speed control and other safety programs to reach the common target audience of younger drivers. Participants identified a need to convene a national gathering of leaders from each State who are responsible for youth program areas. In July 1989, NHTSA cosponsored a Forum on Youth Traffic Safety Initiatives in Washington, D.C., attended by traffic safety experts, government officials, representatives from the private sector, and members of the youth traffic safety research community. These individuals developed an Agenda for Action, since published by NHTSA.

The Forum's published recommendations are organized according to the "Youth Traffic Safety Model." This model outlines nine important components in any community's system for reducing traffic fatalities among this age group: school-based programs, enforcement programs, extracurricular programs, licensing programs, community-based programs, adjudication programs, work-based programs, supervision programs, and legislative initiatives.

NHTSA has used its grant program to encourage implementation of such comprehensive programs in the

States and has supported efforts by national organizations to address the underage drinking problem. Additionally, NHTSA has developed resource materials to assist implementation.

Directions for Current and Future Research

Although significant progress has been made in recent years, motor vehicle crashes continue as a major contributor to deaths and injuries among young adults. Explanations posed for the heavy toll include their inexperience as drivers, their risk-taking behavior, aspects of the youth culture that influence driving, and pressure from peers. Yet the reasons underlying unsafe driving by younger drivers are not well understood. Moreover, research to date generally has shown only punitive or restrictive measures to be effective in reducing crashes and injuries among young drivers. There is a lack of knowledge about how to elicit safer driving through education and positive incentives.

Problem Identification

The following research projects are necessary to obtain fundamental information required to develop program strategies.

Develop Model for Understanding Unsafe Driving Practices by Younger Drivers

Research suggests that young drivers often are ignorant of important aspects of risky driving behaviors. Yet the young adult crash problem stems from more than a lack of knowledge among drivers. Norms, perceptions, cognitive abilities, attitudes, culture, lifestyle, and situational pressures all seem to contribute to decisions regarding driving. Most of these factors imply a motivational component to unsafe driving, i.e., people do what they are doing for reasons that have little to do with information or skills deficits. This research will establish what is currently known about risk-taking by young people in a variety of health-behavior areas, extract common elements, and describe the relationships between these elements and risky behavior. As part of this effort, NHTSA plans to sponsor or co-sponsor a national symposium on risk-taking.

Assess Impact of Advanced Technology Information Systems on Risk-taking Behavior

Risk taking appears to play a far greater role in the crashes of younger drivers than in those of middle-aged or older drivers. Driving research using high-fidelity simulators, such as the planned National Advanced Driving Simulator (NADS), permits the gathering of detailed information on driver behavior and performance under simulated high-risk driving scenarios. Such scenarios cannot be addressed using conventional research methods (e.g., instrumented vehicles) due to safety concerns. A NHTSA program on crash avoidance warning systems will identify opportunities for crash prevention through the use of warning systems, and will determine how warning signals (e.g., "Approaching curve too fast!") can be effectively presented to most drivers.

Some researchers have hypothesized that drivers increase their risky behaviors in response to improvements in highway or vehicle safety, thereby partially or even fully negating the positive effects of crash countermeasures. Accordingly, NHTSA will assess the effects of prospective crash-avoidance technologies on driver risk taking.

Determine Utility of Addressing Specific Sub-groups of Young Drivers

While there is reason to develop countermeasures for all young adults, due to generalized risk in that age group, all young drivers are not equivalent risk candidates. The question arises as to which subgroups merit special attention due to higher levels of unsafe driving or unique countermeasure needs. For example, the literature shows males to be far more at-risk than females, although females appear to be driving more like males in recent years.

This research will obtain data on young adults who engage in unsafe driving practices to identify target subgroups, determine geographic distribution, clarify patterns of unsafe driving practices, and determine other characteristics important to understanding and addressing the problem. National data collection will include the conduct of telephone surveys in the alcohol and occupant protection areas. In the alcohol area, the survey will help define strategic target groups. The occupant protection survey will focus on knowledge of and attitudes toward occupant protection issues, but will also collect data on driving habits to identify groups appropriate for targeting. Both surveys will query the total adult population, but will collect data from sufficient numbers of younger drivers to allow adequate analysis. Additional information may be acquired through focus-group interviews to explore particular issues in more depth, in order to obtain sufficient understanding of complex issues to permit development of appropriate countermeasure strategies.

A separate research project will be collecting and analyzing data concerning young employees ages 16 through 24. The project will focus on young employees who are employed full- or part-time and are not included in school-based countermeasure programs. The project will identify the extent to which young employees are at greater risk than their older counterparts, and will assist NHTSA in developing programs to reduce those risks.

Establish Feasibility of Advanced Technology to Reduce Crashes

In addition to its ongoing basic research on driver performance and crash causation, NHTSA has underway or in planning a series of programs to determine how, and how effectively, advanced technology crash avoidance countermeasure concepts can reduce crashes. NHTSA's near-term programs will develop performance specifications for systems dealing with rear-end, intersection/crossing path, lane change/merging/backing, and single-vehicle roadway departure crashes. (Later programs will develop performance specifications for night/vision enhancement systems and rapid response emergency medical service "Mayday" systems.) The single-vehicle roadway departure and emergency medical service projects will be highly relevant to younger drivers as they are over-represented in these crashes.

Current NHTSA-funded research focuses on developing methods of detecting reduced performance associated with drowsiness and fatigue, a problem in which younger drivers are somewhat over-involved, relative to other age groups. Later, this research will focus on erratic driving behaviors and performance, areas particularly relevant to younger driver crashes.

Determine Role of Dynamic Vehicle Cues on Driver Performance

Driving involves a continuous interaction of the driver with his or her vehicle and the roadway environment. Visual cues from the roadway are obviously of paramount importance. Less obvious is the importance of motion cues from within the driver (e.g., kinesthetic, vestibular) and certain vehicle response cues (e.g., body roll, apparent oversteer/understeer). IVHS (Intelligent Vehicle and Highway System) technologies present the possibility that such cues may be manipulated in the future to provide enhanced feedback to the driver to decrease the likelihood of vehicle loss-of-control. The nature of the feedback may even be adjustable based on factors such as driver age or risk. This research program will determine the effects of various combinations of cues on driver performance.

Program Development

The following research projects focus on developing strategies for addressing problem areas and generating suitable countermeasure elements to address specific issues.

Tailor Program Strategies to the Needs and Characteristics of Specific Target Populations

An important ingredient to reducing motor vehicle crashes and injuries is developing strategies that effectively counter underlying reasons for engaging in unsafe driving behaviors. To the extent that such reasons reflect cultural or group norms, countermeasures should be tailored to the needs of specific target groups. Moreover, groups may differ in their receptivity to varying information messages or to varying methods for inducing behavior change.

This research program will determine educational and other techniques that will be effective with different population subgroups. For example, NHTSA's norms research program currently is working on developing techniques to elicit anti-DWI behavior from drivers, including younger drivers. This and other projects will be used to develop approaches, strategies, materials, and programs applicable to specific groups.

Develop Methods and Materials to Improve Enforcement and Adjudication Involving Younger Drivers

Safety legislation and its enforcement have been crucial contributors to the gains made in highway safety. Yet there is significant room for improvement in enforcement and adjudication. This is particularly true in dealing with younger drivers, whose levels of arrests and citations for certain violations (e.g., DUI/DWI among drivers younger than 21 years of age) fall below what one would expect from their contribution to the motor vehicle crash problem. Developing improved enforcement techniques, plus developing materials to assist the police and courts in enforcing the laws, should add to the safety benefits already accrued from current deterrence efforts.

This effort will determine the types of sanctions that would be most effective in deterring youth from proscribed driving behaviors and develop methods and materials to improve enforcement of highway safety laws for younger drivers. For example, NHTSA is funding an inter-agency agreement with the Department of Justice to (1) examine issues of enforcement, adjudication, and prosecution of drinking and driving laws among underage drinking drivers; (2) develop technical assistance materials to support alcohol enforcement efforts with underage drinking drivers; and (3) set up demonstration sites to test the materials. NHTSA also has awarded grants to the National Council of Juvenile and Family Court Judges (NCJFCJ) and the International Association of Chiefs of Police (IACP) to conduct a series of statewide workshops for their respective constituencies on youth adjudication and enforcement issues.

Other planned research includes studies of the use of enforcement technology, such as passive alcohol sensors and roadside videotaping, that may have relevance to younger drivers.

Determine Bases for Motorcycle Operation With Improper License

Crash data show substantial numbers of riders not properly licensed to operate the motorcycle. This evidence suggests that many riders may not have the requisite skills and training to operate safely in traffic. This research effort will determine reasons for improper licensure so that strategies may be developed to increase proper licensure among young motorcyclists. Promising procedures will be evaluated.

Develop Methods for Involving Parents in Building Safe Driving Habits in Their Children

Parents have great potential to influence their children, being experienced drivers who, for better or worse, provide models of "acceptable" driving behavior. Parents could also monitor and shape the performance of their offspring. However, they are rarely employed in programmatic efforts to build safe driving habits among younger drivers. NHTSA previously conducted research to assess the feasibility of developing programs to assist parents in preventing drinking and driving by their children. The results suggested some barriers to parental involvement in traffic safety programs that would need to be overcome.

Research on how best to do so must wait until we know which youth subgroups are most important to target. It may well be that some of the target groups will consist of persons for whom there is little hope for obtaining effective parental influence. There is a need first to identify the target groups and gain an understanding of them. Consequently, this research must follow identification of target groups in order to make decisions about whom to target for parental involvement and determine effective methods for eliciting this involvement.

Program Evaluation

The following research projects examine existing programs to document their implementation processes or assess the extent to which they meet their outcome objectives.

Evaluate Implementation and Effectiveness of Safety Programs Directed Toward Younger Drivers

While numerous highway safety programs are implemented across the nation, relatively few undergo rigorous evaluation. Thus there is a great deal of activity but not much information on what works. Even with an area such as provisional licensing, where there is evidence of effectiveness, questions persist about how best to implement the program and which components may be most effective.

NHTSA's research agenda includes evaluation of countermeasure activities to document their effectiveness and/or determine the best ways of implementing the prevention method. For example, lower BAC limits for drivers under age 21 will receive further study through crash data analyses conducted for States having the lower limits, as well as States not having lower limits. NHTSA also will be evaluating provisional licensing in those States which have implemented a provisional system that contains a majority of the components recommended in the NHTSA/AAMVA model program. The evaluations will include an attempt to assess individual system components.

Other planned activities include evaluation of improved motorcycle licensing procedures and programs and field test of programs that support 21 MDA legislation.

Evaluate Regional Underage Drinking Program

Underage drinking poses a significant threat to the safety of younger drivers. NHTSA awarded a grant in FY 92 to the Washington Regional Alcohol Program (WRAP) to conduct a regional effort to combat this problem. The three year project involves the development of an action plan for the Washington, DC region, its implementation, and evaluation. The first year of the grant involved the collection of baseline data to assess the nature of the problem and what should be done to address it. In addition, the project has initiated a process evaluation of the regional effort, and has been working to identify appropriate outcome measures for an evaluation of program effectiveness .

CHAPTER 3

Research Agenda for Older Drivers

The primary safety issue facing older drivers is how to adapt driving practices to accommodate declining functional capabilities while still maintaining necessary mobility. NHTSA's research agenda focuses on identifying those capabilities that are critical to safety, determining the driving practices that are appropriate for those capabilities, developing information for assisting individuals in making the proper choices, and cultivating licensing and enforcement policies that protect public safety while maintaining the mobility of older drivers.

In contrast to the research needs of younger drivers, the research needed to ensure the safety and mobility of older drivers has been well defined. This chapter includes a brief description of the Agency's previous research and programmatic activities and specifies the direction of future research on older drivers.

Summary of Prior Research

NHTSA has had a research interest in the safety of older drivers for many years. The Agency initiated a series of projects in the mid-1970's to improve the safety of older drivers. These projects focused on identifying the problems of older drivers, with an emphasis on attempting to understand the role of declining health and ways to inform older drivers and assess their driving capabilities.

Medical Limitations

In the early 1980's, NHTSA sponsored an in-depth study of heart-attack victims that found, contrary to expectation, that those with myocardial infarction actually had a better safety record than their age, sex, and regionally-matched controls. The study also indicated that very few of those who had a heart attack reported it on their driver license application at time of renewal.

Agency research also investigated potential improvements in the assessment of driver visual capabilities. This research identified a number of complex visual problems related to safe driving performance. Unfortunately, due to the nature of the tests and limitations of the technology available at that time, tests of these complex visual skills were not sufficiently reliable to establish new vision standards. This research provided evidence that most common visual problems, such as poor visual acuity, appeared not to have an adverse affect on driving safety. Most drivers suffering from poor acuity are aware of their problems and may adapt their driving accordingly.

While certain medical conditions are apparent to those that contract them, others are not. Drivers with conditions in the former group seem to adapt their driving habits appropriately. However, individuals suffering from conditions in the latter group seem not to adjust their driving to compensate for their declining capabilities. These conditions include dementias and certain other cognitive problems involving attending to simultaneous events.

Driver Licensing

More than a decade ago, the Agency developed profiles of older-driver crashes and recommended licensing practices for older drivers. Working with the American Association of Motor Vehicle Administrators (AAMVA), NHTSA developed a series of guidelines designed to assist the States in dealing with an array of driving problems. Among the guidelines were those that dealt with functional ability, certification of license examiners and a model driver screening and evaluation program. These programs were based upon what practitioners and the research consultants thought were the best available practices. Unfortunately, basic epidemiological data needed to develop the policy guidelines did not exist at that time.

Retraining

The Agency worked with the private sector to develop and evaluate retraining programs for mature drivers. Driver licensing research led to development of a driver manual to help older drivers become familiar with and take appropriate action about their declining capabilities. Older people did accept, learn and retain the written information. However, an evaluation of the crash and violation records of those receiving the information failed to show any significant reduction when compared with a control group.

The Agency developed and distributed special informational materials on occupant protection for older drivers, studied how older persons obtain information, and identified potential distributors of safety information to older drivers and pedestrians.

Scientific Knowledge Base

NHTSA staff were actively involved with the Transportation Research Board (TRB) study on *Transportation in an Aging Society: Improving Mobility and Safety for Older Persons*, Special Report 218.

NHTSA's most recent research efforts on behalf of the older driver stem from the Agency's 1988 *Traffic Safety Plan for Older Persons*, published in response to the recommendations of the TRB report on aging. This plan outlines a number of research and development activities spread across several areas, including problem identification, occupant protection, driver licensing, pedestrians, consumer information, crash avoidance, and crashworthiness.

Following the Plan, the Agency conducted a number of research, development, and outreach activities. In order to complete the intended problem-identification objectives, Agency staff conducted an extensive literature review on aging and driving and an analysis of existing national data.

In 1989, the Agency convened a conference to establish a benchmark on current knowledge about aging and driving performance in order to define the research and developments needed to improve the safety and mobility of older drivers. This conference, cosponsored by the National Institute on Aging (NIA), the Federal Highway Administration (FHWA), and the Centers for Disease Control (CDC), was attended by more than 200 internationally known gerontological specialists in medical and behavioral research and applications.

Following one of the recommendations of the conference attendees, Agency staff were instrumental in establishing a TRB Task Force on the safety and mobility of older' drivers. The purpose of this ongoing task force is to provide a forum for discussing older-driver research issues by individuals representing diverse disciplines and developing a coordinated set of research problem statements for the use of Federal and State government agencies and private-sector organizations. This Task Force co-sponsored a conference on assessing driver competency.

In 1989 and 1991, NHTSA established interagency agreements with the NIA. NIA had funded a group of longitudinal studies of functional abilities of older persons. The interagency agreement permitted NHTSA to obtain driving information from older persons in two of their study sites, rural Iowa and New Haven, Connecticut. This teamwork permitted the investigation of the role of older drivers' medical conditions and functional ability in their driving safety and personal mobility. This research has led to a much better understanding of the changing driving patterns associated with medical conditions and functional limitations.

What We Know

The research with NIA confirms earlier hypotheses that most older drivers seem to be taking appropriate steps in controlling when and where they drive based upon their declining capabilities. However, there appears to be certain groups of older drivers who do not appropriately limit their driving because they are unaware of their declining capabilities. Drivers in this latter group are especially difficult to identify, as the procedures currently necessary to detect the medical conditions thought to be associated with driving problems are time consuming, complex, and expensive. Simple methods proposed to regulate problem older drivers also tend to place unnecessary limitations on drivers who do not pose safety problems.

It also appears that older women are much more likely to stop driving than are men of the same age, and they give "lack of confidence" as their main reason for quitting. Results indicate that it is much easier to predict when an individual is likely to stop driving voluntarily than it is to predict their involvement with traffic violations.

Directions for Current and Future Research

This section describes NHTSA's research program for addressing safety problems unique to older drivers. It does not address the Agency's research on older vehicle occupants or pedestrians.

Problem Identification

Much of what we need to do is to understand the changes that occur with aging as they relate to driving and provide information to drivers to allow them to evaluate those changes. The following research projects are necessary to obtain fundamental information required to develop program strategies.

Establish Crash Risk for Various Medical/Functional Conditions

Sufficient epidemiologic data now exist to begin to establish statistical relationships between some medical conditions and driving problems. Accordingly, this research effort will determine the conditions under which older drivers pose a threat to public safety and thus need to be identified and controlled. This study will establish the statistical link between crash risk, moving violations, and various physical and mental conditions. It will also identify the extent to which individuals with conditions that affect driving performance correctly modify their behavior and drive safely. The results of this study will serve as a basis for developing informational, licensing, and enforcement programs.

Determine the Conditions Under Which Driving by Older Persons Should be Regulated

Recent literature indicates that most older drivers compensate for their limitations in what appears to be an appropriate manner. A major function of law-enforcement and driver-licensing agencies will be to identify and regulate those drivers who do **not** self-regulate, i.e., those who continue to drive in situations in which they pose safety risks. To assist licensing agencies in establishing appropriate regulatory approaches, the Agency will determine the characteristics of drivers that do not adequately self-regulate and the conditions, if any, under which they may be able to drive while preserving safety.

Document Mobility Consequences of Giving Up Driving

Many States are reluctant to take away or even restrict licenses of older drivers, particularly those who live in rural areas, because there may be no transportation alternatives. Societal problems are likely to arise if these people cannot get around. Some key issues are whether communities have the resources to supply specialized transportation to older drivers who lose their licenses and whether these older people are willing to use transit systems in light of limited service and concern for personal safety. In cooperation with the Federal Transit Administration and the Administration on Aging, this research will document a broad array of concerns of older people and prepare a checklist to permit community planners to assess the degree to which there are remedies for these concerns within their community.

Improving Understanding of Vehicle Crashworthiness for Older Occupants

The increased frailty of older persons in crashes raises the question whether increased levels of protection can be obtained with improved vehicle or safety-systems design. As part of crashworthiness research, NHTSA will analyze crash data to determine the nature of injuries older persons sustain due to restraint systems (lap/shoulder, airbag, etc), compared to injuries sustained by younger people. Since older drivers are more likely to be involved in side impact crashes, these crashes will be investigated to determine the extent to which older occupants are over-involved in fatal injuries.

Identify Causes of Older-Driver Crashes at Intersections

This research will investigate the causes of older-driver crashes at intersections, particularly those involving left turns. Depending on the outcome of these analyses, this will serve as a basis for developing either new advanced-technology in-vehicle devices to assist the driver or training and informational materials for drivers.

Identify Barriers to Physician Referral of Patients for License Reexamination

In most States, laws require physicians to report patients whose medical conditions may make them unsafe drivers. However, there are marked differences in the laws and practices of different States. Different State laws, such as those requiring reporting certain conditions or providing immunity to those reporting, undoubtedly affect the rate of reporting unsafe drivers. This study will investigate the legal, ethical and practical barriers to effective reporting by physicians and explore the relationship between improving safety and improving reporting requirements by physicians. This study will include an investigation of the actual influence on safety and mobility in States with different reporting requirements.

Identify the practical problems in family/friend reporting of functionally limited drivers

There are marked differences across the States in laws requiring families and friends to report a potentially unsafe driver to the licensing agency for reexamination. At least one State does not permit reporting, and others require that individuals called in for reexamination be given the name of the individual reporting them. This study will examine the influence of these differences and recommend steps for improving the process.

Program Development

The following research projects focus on developing strategies for addressing problem areas and generating suitable countermeasure elements to address specific issues.

Develop Performance Assessment Techniques

Current DMV tests do not detect the conditions that appear to be most problematic. Detecting problem older drivers will require testing for different capabilities under different conditions than are currently in use. Performance tests that closely approximate the driving situations of older drivers and their functional limitations will be developed and validated. Performance tests will also be developed and validated for rehabilitation specialists, particularly in the areas of dementia and perceptual difficulties associated with split-attention tasks.

Many of the functional difficulties that potentially interfere with safe driving are brought about by medical incidents. Testing individuals with limitations from these medical events requires more extensive and complex procedures. Accordingly, performance tests will be designed for those professionals most able to perform the diagnostic testing and training.

Develop Strategies for Meeting Mobility Needs of Older Former Drivers

In cooperation with the Federal Transit Administration and the Administration on Aging, this research will develop strategies for meeting the transportation requirements of older people who can no longer drive. Recognizing that the transportation infrastructures in different communities may be vastly dissimilar, this effort will design informational packages, training materials, program descriptions and guidelines for use at the State and community level.

Develop Improved Intersection Negotiating Practices

Based upon in-depth analyses of the problem, NHTSA will develop either behavioral or human-factor solutions to improving intersection negotiation. The behavioral alternative will develop assessment, informational, and training programs designed to overcome some of the current limitations. The other alternative will apply advanced technology solutions, such as Intelligent Vehicle-Highway Systems (IVHS), to these problems.

Develop Empirical Guidelines for Medical Practitioners

Current medical guidelines for advising older persons about continuing driving are largely based on best professional judgment rather than empirical data relating conditions to safety problems. There is some evidence that existing guidelines may unnecessarily restrict mobility. This research will develop practical guidelines for physicians, based on ongoing NHTSA epidemiological research.

Develop Guidelines for Assisting Older Drivers in Making Decisions About Driving

Following the development of appropriate assessment procedures based on the Agency's epidemiological research, NHTSA will develop a series of guidelines to aid the process of identifying problem older drivers and assisting them to make appropriate decisions regarding driving. Guidelines for older people themselves will provide "self-test" procedures that they may use to determine the extent to which they should limit their driving. Guidelines for families and caregivers will provide methods for dealing with the older driver and for discretely informing the licensing agency of the need to re-examine the functionally-impaired driver. Guidelines for police officers will address the need to report problem drivers and provide methods for identifying drivers who display symptoms of functional limitations or medical conditions that may make them unsafe on the road.

Develop Training and Informational Programs

With the expected increase in the number of older drivers, many of whom will have declining functional capabilities, the Agency will focus on developing new ways of improving their driving. For example, rehabilitation specialists have been teaching stroke patients, head-injured patients, and others to drive again. This study will identify and examine existing training programs to determine the extent to which they actually reduce crashes and help those who should correctly reduce or eliminate their driving. With new technology available, and better understanding of the role of functional limitations on driving, there may be new possibilities to improve both individual and group training of older and functionally impaired drivers. The study will document methods useful for retraining older drivers, recommend improvements to existing programs, and develop model procedures for use in retraining older drivers.

Advanced Technology

This effort will identify conventional and advanced technology vehicle design features to prevent crashes typical of older drivers. The potential role of advanced technology to extend the driving careers of older people still needs to be identified. Devices and systems that may aid younger drivers may not aid older drivers, and may, in fact, be detrimental to their driving performance. Studies of advanced technology will ensure that proposed systems do not inadvertently degrade older driver safety and performance by overloading their decision-making or informational capacity.

Program Evaluation

The following research projects examine existing programs to document their implementation processes or assess the extent to which they meet their outcome objectives.

Evaluate Safety Benefit of License Re-examination Requirements

Currently, there is lack of agreement on the necessity for the licensing agency to require older drivers, particularly those with clean records, to come to the agency for license renewal. Most older drivers prefer to judge for themselves, or have their physician or family aid them in deciding when, where, or whether they should drive. Many legislators and licensing administrators believe that it is necessary to have older drivers renew in-person so that their behavior can be observed to determine if they need to be examined further. This research will evaluate the outcomes of these alternative licensing procedures.

Evaluate NHTSA/AAMVA Model Driver Screening and Evaluation Program

Many States are eager to institutionalize methods to deal with older drivers. NHTSA's Model Driver Screening and Evaluation Program provides a set of guidelines for consideration and adoption by State motor vehicle administrators. Many of the actions recommended in this program appear to duplicate the actions of self-regulating older drivers. The extent to which this program can detect problem drivers is unknown. This research effort will document implementation procedures and evaluate the safety consequences of the model program.

Evaluate Safety Outcomes of Self/Community Appraisal of Driving Limitations

To the extent that older drivers regulate their driving to fit their declining capabilities, the driver-licensing system serves as a back-up system or safety net. Under this supposition, the main function of licensing would be to ensure that drivers who continue to drive in situations beyond their capabilities are identified, tested, and, if it is reasonable to do so, licensed for appropriate restricted driving conditions.

The focus of the Agency's research and development effort is to produce guidelines for older drivers, their families, and caregivers to facilitate self-regulation of driving. The more effective these guidelines are in accomplishing their objectives, the more the licensing system functions in its back-up mode. This may result in the need to shift emphasis areas within licensing agencies.

This evaluation will follow the development of the Agency's guidelines and will assess their impact on older-driver safety. This effort will evaluate the guidelines' potential for correctly changing the driving actions of functionally-limited older drivers and determine the subsequent effects of increased self-regulation of older drivers on the roles played by driver-licensing agencies.

Evaluate Programs to Maintain Mobility of Former Drivers

Making the transition from driver to rider status for older persons is not easy. Current programs must be evaluated to help ensure that older people who no longer drive can continue to meet their transportation requirements. NHTSA, FHWA, the Federal Transit Administration, the Administration on Aging, and the National Institute on Aging have jointly proposed programs to address the mobility needs of these former drivers. This effort will evaluate such programs to ensure that they meet the needs of the senior citizen.

Mr. PRICE. Thank you, Mr. Chairman.

Mr. CARR. Mr. Wolf?

IVHS AND OLDER DRIVER RESEARCH

Mr. WOLF. Thank you, Mr. Chairman.

Welcome to the Committee.

Just to follow up on what Mr. Price was asking you, are you talking to Federal Highways or anybody else with regard to incorporating IVHS into efforts to help the elderly driver continue to drive longer?

In a rural area, taking away the license of an elderly driver literally shuts his or her life down. I live where there is no mass transit near my house.

So to follow up on what Mr. Price said, are you doing any research in regard to IVHS that will help the elderly drive longer and drive safer?

Mr. SMOLKIN. Before I turn this over to Mr. Parker, who will comment on some of our IVHS activities, let me emphasize our awareness and concern with any activities that would remove mobility from the older driver. Our approach is not to just take the older driver off the road but to help them do their job better and make them aware of the circumstances in which they can best drive safely. We are focusing on this in the IVHS area, and some of the activities look promising. George?

Mr. PARKER. Yes, Mr. Wolf, we are in the process now of putting together for IVHS a summary document of our programs for the older driver, how they would relate to the older driver. Most of them are safety, as you mentioned.

But there is one application in particular that, although it has safety benefits, would certainly help the driver continue their mobility, and that is night vision enhancement. That is a major part of our program.

But most of the problems that older drivers have are with regard to safety, and I think that causes them to limit their driving. So some of the IVHS applications for warning devices for intersections, for example, which are a big problem for them, we think would help them overcome their safety concerns and give them that additional level of confidence.

Mr. WOLF. Is this just happenstance or are there actually programs that we are asking Fed Highways and others to direct to see what we can do to help the elderly drivers?

Mr. PARKER. Most of the elderly driver programs are in our agency, NHTSA.

Mr. WOLF. Are you doing anything to help older drivers continue to drive longer? Obviously, we are all going to become older drivers.

Mr. PARKER. There is nothing we have that is addressed specifically at the question of helping them drive longer, but we think one of the main reasons that they don't drive longer is concerns about safety. And, therefore, we think that the applications that we are developing for driving in general but in specific cases for the older driver will continue that extended mobility.

Mr. **Wolf**. If you could look at that. Safety and driving longer go together I think, and I want to be careful that we are not developing something whereby we take a lot of people off the roads.

And in this society with the breakdown of the family, you find many elderly people living alone. And you find many elderly people in the rural areas—husbands and wives—with their grown children elsewhere, may be living in California or New York City. And if you were to take their car away and they didn't have the opportunity to go to the grocery store or go to the doctor we would literally be squeezing them out of a comfortable life.

I appreciate what you are doing, and I have no criticism of that, but please focus on something that would specifically help the elderly driver to continue to drive longer and safer. And I think these two elements go together.

Mr. **Parker**. I think there is one aspect of the Highways program—and I know when you asked Highways they said NHTSA is working on this. But the Advanced Traveler Information System that is part of the Highways IVHS program will make it easier for all drivers, and older drivers in particular, to find their way to places that they are not familiar with. The concern that we have is that that information is presented to drivers—all drivers—in a way that is easy to understand.

So our program has a human factors research component so that we can help Highways apply their program in a way that makes it easier for drivers to understand the directions they are given and not divert their attention from the driving task.

DANFORTH BILL

Mr. **Wolf**. If you would keep us informed. If you think there is any merit in perhaps the committee, along with what Mr. Price did, earmarking something with regard to that, because there is a growing number of people who will be elderly drivers as the population becomes older. And we want these people to continue to have that mobility. Be in touch with the committee if you think there is something we could do or something you might be able to do.

Following along on that same issue a little differently, I have introduced in the House the Danforth bill. Are you familiar with the Danforth bill? This bill also deals with older drivers needs, but it primarily focuses on teenage drivers. It provides a five-year $100 million incentive grant program for states. It encourages provisional licensing; mandatory seatbelt use; 02 BAC (blood alcohol content); and a fine of at least $500 for selling alcohol to teenagers.

I was surprised to find that most States, although they have a 21-year-old drinking age, don't have a law prohibiting the sale of alcohol, such as a keg of beer, to people under 21. Has anyone on the panel taken a look at the Danforth bill?

Mr. **Smolkin**. Yes, we have, sir.

PROVISIONAL LICENSING

Mr. **Wolf**. Could you give me your comments? I introduced it in the House, but in fairness, Senator Danforth led the way in the

Senate. I won't want to take all the credit for it. I hope that we can move the bill in the House somehow this year.

Mr. **Brownlee**. There is a great deal that is appealing in that bill. The principal features I think you have mentioned. First and foremost, as far as younger drivers are concerned, is the provisional licensing aspects of that bill, where a driver when he is young or she is young would have to demonstrate good performance in order to retain the license. We have supported provisional licensing at a State level for some time.

Mr. **Wolf**. How many States actually have it?

Mr. **Brownlee**. There are 11 states that have it in some form.

Mr. **Wolf**. Who does the best?

Mr. **Brownlee**. I am sure I would hear from the States that I don't mention.

Mr. **Wolf**. I am not asking who is doing the worst, but who is the model State that is doing well?

Mr. **Brownlee**. Oregon comes close to having a good system.

Mr. **Wolf**. How does it work?

Mr. **Brownlee**. It has features that relate to what hours you can drive, and it has features I think that relate to infractions. If you violate laws during the period when your license is provisional, you could lose your license.

I would like to get back to you——

Mr. **Wolf**. How long would you lose the license?

Mr. **Brownlee**. I am not sure. I can't give you that precise a response.

But to lose the license for some period of time when you do not wear your safety belt or are involved in serious traffic infractions, when you might be in accident for cause, and those types of things and hours of operation, a curfew kind of thing. These are the kinds of things that you think about when you think of provisional licensing systems.

What we would like to do in our 1994 budget is to evaluate the effective programs that exist out there for provisional licensing. We do believe that provisional licenses and the driver's license itself are very powerful tools to try to convince young drivers to drive correctly. In addition to the educational parts of it, it can be a great attitude adjustor if you are threatened with the loss of the license if you don't drive properly.

Mr. **Wolf**. You plan to evaluate it. You don't feel that there has been enough evaluation?

Mr. **Brownlee**. No. And the question is whether there is a State that exists out there with a full range of provisions that would make it most effective.

UNDERAGE ALCOHOL SALES

Mr. **Wolf**. What about the penalty for selling alcohol to a teenager?

Mr. **Brownlee**. The current laws across the country that relate to the age 21 legislation vary a great deal in whom the prohibitions apply to.

Mr. **Wolf**. Is there a model law?

Mr. **Brownlee**. I think a model law would involve prohibitions against the seller, prohibitions against possession and a number of prohibitions that relate to the full range of people that might be involved in the transaction, the possession and the consumption.

Mr. **Wolf**. Has anyone developed the model law? Could you develop that for us?

Mr. **Brownlee**. Certainly on an advisory basis to put together all the features.

Mr. **Wolf**. Perhaps if you could do that. I could, just on an informal basis—obviously, I have no ability to require anybody to do anything, but we would be glad to send a copy to the 50 State governors and say, here is a model law that NHTSA has developed. You might want to take and look at it and see what you think.

I want to be sure—how many States do you think have good laws prohibiting the sale of alcohol to minors?

Mr. **Brownlee**. I would distinguish your first question from your second; good laws. All States in one form or another have prohibitions against either the sale or the purchase of alcoholic beverages by minors. It was under a statute enacted to encourage State legislation 10 years ago. Our direction was to consider whether the States made the transaction in one way or another illegal. All of the States have provisions in their law at this point.

All of the States do not, however, have all the features of a law that we were just speaking about. And I think that is where we can give you assistance and advice as to what might institute full prohibitions in an age 21 State.

DISTRICT OF COLUMBIA DRINKING AGE LAW

Mr. **Wolf**. What about the District of Columbia?

Mr. **Brownlee**. I am not sure about the District of Columbia's law. I know there have been a number of criticisms of the District of Columbia's system that is related primarily to enforcement of the law.

Mr. **Wolf**. They have been terrible. I have always complimented former Congressman Barnes for his effort. Moms and dads will never know that he saved their kids from dying. The District of Columbia was a blood border. Many kids were coming over here, especially into Georgetown, and the Georgetown operators were not tough in enforcing the 18-year-old drinking age. The District leaves a lot to be desired.

Mr. **Brownlee**. There is a project that has been funded in the Washington area, in the District and the surrounding jurisdictions as well, through an organization called the Washington Regional Alcohol Program. This project will test whether or not, if you do an aggressive program of education and enforcement, that you can make a substantial dent in the youthful drunk driving problem in this area.

DRIVERS EDUCATION BUDGET TRENDS

Mr. **Wolf**. To follow up, has there been a problem because a lot of States have canceled their drivers ed programs because of budget cuts? How many States have? And has that had an impact on driver safety, especially for teenagers around the country on this issue?

Mr. **Smolkin**. Drivers education has fallen victim to budget stringency in a large number of States.

Mr. **Wolf**. Yes.

Mr. **Smolkin**. When we did our initial evaluations of drivers ed, we weren't able to show a marked statistical difference between individuals who had taken drivers education and those who had not.

Mr. **Wolf**. Really?

Mr. **Smolkin**. There is a difference in the early period, the first six months. You can really see a difference. There needs to be a better reinforcing mechanism so that some of the lessons that are learned are maintained over a longer period of time. We have been trying to take a fresh look at drivers ed and look at whether there are any new mechanisms or new approaches that we might take to be able to demonstrate that it has a significant impact on safety.

Mr. **Wolf**. Could you keep us informed on what you find? I thought the program was working well. Children that seemed to go through it seemed to be much more conscious with regard to seat belt use. Perhaps it doesn't last. I am not sure.

Mr. **Brownlee**. I could add some information, Mr. Wolf, about the extent of drivers education available right now. It is very difficult to get a full census on which jurisdictions have drivers ed and which don't, but we do know that there are about 25,000 schools out there, and there are about 9,000 drivers ed teachers. That gives you some sense of penetration in the school system of drivers ed.

I think a rather simple conclusion that you draw from that is that a lot of schools have given drivers education up.

DRIVING SIMULATOR

Mr. **Parker**. Mr. Wolf, if I could add some information here for both the older driver and the younger driver.

We think that the driving simulator will be an excellent tool for both of them. In driver education, you can't expose them to the consequences of risk but you can do that on a simulator, so I thought an experiment would be to do a group of youngsters that are at the driving age and run them through the simulator and expose them to the consequences of risk and have a control group that you don't do that to and follow them over a period of time.

Mr. **Wolf**. Why don't we do that?

Mr. **Parker**. We are going to do that.

Mr. **Wolf**. I know a couple of high schools that might take you up on that in my district. How are you going to do that? I am interested in that.

Mr. **Parker**. The simulator is going to be located in the University of Iowa, so it would have to be in the local area. We would have a control group and experimental group. The experimental group would be exposed to the consequences of risk taking. And the other group would go through either no driver ed or the regular driver ed, and you would do that over a period of time.

Mr. **Wolf**. Is there a simulator in this area?

Mr. **Parker**. There is not a simulator in this area.

Mr. **Wolf**. I would hope that you would do it in Iowa. What do they cost?

Mr. **Parker**. There are some simulators——

Mr. **Wolf**. When I was a young kid, I used to go to the Franklin Institute on a rainy day, and they had a driving simulator. It was archaic, I am sure, but you would "drive" along and someone would step off the curb and you would react.

Mr. **Parker**. That is one of the experiments that we would run; what level of simulation would you need for driver education? California is interested at some level of having simulators for drivers' education.

The research simulator that we want to build will be used to decide what level of simulation would be effective for driver training. The same thing for older drivers. We think it is an application for older driver research-what problems they have-by putting them in a simulated situation.

Mr. **Wolf**. And, that way, if you make a mistake——

Mr. **Parker**. That is the whole reason.

TRUCK RADAR DETECTORS

Mr. **Wolf**. And airlines use simulators. It is cheaper than crashing a 747. Also, shipping and maritime.

Radar detectors in trucks; should we ban them or allow the truckers to continue to use them? It is really kind of simple.

I may offer an amendment—I am not sure it is going to be successful—to ban radar detectors in trucks.

Mr. **Smolkin**. The issue of radar detectors is one which this agency has wrestled with for some time. The issue is complicated by the fact that it is difficult to find a clear statistical basis for showing that radar detectors are dangerous.

Overall, as a safety agency, we don't feel very positively about radar detectors. We are aware that a number of people argue strongly that it is the citizen's right to receive radio communications at all wavelengths, including radar.

As far as whether they be banned in trucks, the Federal Highway Administration would set the——

Mr. **Wolf**. Yes, but you are the safety expert, and I want your evaluation.

Mr. **Smolkin**. Our approach has been that we don't see any safety improvements that can be achieved through the use of radar detectors.

Mr. **Wolf**. Flip that around. Would you favor the banning of them in trucks?

Mr. **Smolkin**. Well, if it seems that I am dancing, Mr. Wolf, I am to a certain extent. It has been a political decision as to whether to ban radar detectors. I will say again, as a safety agency we see no benefit in radar detectors.

Mr. **Wolf**. In fairness to the other side, is there any data to show that the banning of radar detectors in trucks would reduce accidents?

You take I–81, going down from, say, Winchester to Harrisonburg on a Sunday night. Sometimes you can't even get off quickly enough because trucks are moving very, very fast. What are your feelings? Do you have any data at all?

Mr. **Smolkin**. We have done some research on that.

Mr. PARKER. If I may add a little bit of information without an opinion on whether we should ban them or not.

A couple of years ago, we did an internal study to look at whether speed control devices should be applied to heavy trucks, whether that would provide a benefit.

TRUCK SPEED CONTROL GOVERNORS

Mr. WOLF. Like a governor, you mean?

Mr. PARKER. Like a governor. And we looked at the information we had on speeding by trucks, and it turned out to be much less than speeding by passenger cars. And the judgment was that it is probably not cost-effective to put governors on trucks because the amount of speeding is fairly small.

Now, that data we used is several years old now, and it could be that if we looked at current speeding information we might have a different——

Mr. WOLF. I don't want to pick on trucks, and I have nothing against trucks. It just seems that when a truck is in an accident on the Beltway or on Shirley Highway, you, one, tie up a lot of traffic for a long period of time, and two, there is a good chance that someone is going to be killed in the accident. A lot of heavy equipment rolls down the road at 65, 70, 75 mph.

I wonder if there would be any merit in doing it. I know it would be controversial. There's no question about that. If you could glean from your research or any publications any available data, I would appreciate it. I haven't made any decision, to be honest with you.

But I would like to get an opinion. You all are the safety experts. I don't want to put you on the spot, not of whether you think we should, but if there is any data on either side. I don't want just to reinforce what I am saying; I'm looking for objective data.

[The information follows:]

The study you refer to found that speeding among trucks was low, compared to cars. On highways posted at 55 mph, 3 percent of trucks speed in excess of 70 mph. On roads posted at 65 mph, about 14 percent of trucks exceed 70 mph. Comparable figures for cars are 10 percent and 23 percent, respectively. Additionally, only about 0.2 percent of all combination-unit truck crash involvements, and 0.7 percent of fatal crash involvements, occur at police-reported estimated travel speeds in excess of 70 mph. Comparable figures for cars are 0.5 percent and 6 percent, respectively. Finally, high speed truck crashes represent a small proportion of both the overall heavy truck crash picture (0.7 percent) and the overall high-speed crash problem (0.8 percent). The overall conclusion of the study was that, for a number of reasons, mandatory use of speed limiting devices was not justified. First, heavy truck speed limiting devices would have to be set at approximately 70 mph, since 65 mph speeds are permitted on many Interstate Highways. However, 90 percent of combination-unit truck crashes and 95 percent of heavy single-unit truck crashes occur on roads with speed limits lower than 65 mph. Speed limiting devices would have no effect in these cases. A copy of the executive summary of the report titled, "Commercial Motor Vehicles Speed Control Devices" follows.

U.S. Department
of Transportation
**National Highway
Traffic Safety
Administration**

DOT HS 807 725 **May 1991**
Final Report

Commercial Motor Vehicle Speed Control Devices

Prepared in Response to
Section 9108; Public Law 100-690
Truck and Bus Safety and Regulatory Reform Act of 1988
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EXECUTIVE SUMMARY

Heavy truck safety has improved dramatically over the past decade. The fatal crash involvement rate for medium/heavy trucks was 3.7 per 100 million vehicle miles of travel in 1988, an all-time low. Between 1977 and 1988, the fatal crash involvement rate for combination-unit trucks decreased 40 percent, while the rate for passenger vehicles (cars/light trucks and vans) decreased only 25 percent. The efforts of motor carriers and their drivers, coupled with expanded state-Federal programs to license commercial drivers and inspect vehicles at roadside, all seem to be having a positive effect.

Despite these encouraging findings and the efforts of most motor carriers and drivers to operate responsibly, many motorists are uncomfortable sharing the highways with heavy trucks. These concerns are heightened when trucks speed, principally because of the relative size of trucks compared to passenger vehicles. Because of the size of trucks, truck crashes in general have a greater likelihood of causing a fatality than do passenger vehicle crashes. As could be expected, the preponderance of these fatalities occur among occupants of the other, generally much smaller, involved vehicles, rather than among truck occupants.

In response to these concerns, it has been suggested that trucks should be required to be equipped with devices to control their maximum speed. This study examines the safety issue of truck speeding and considers the merits of mandating the installation of speed control devices on heavy trucks. Two principal forms of speed control are addressed: (1) speed-limiting devices ("governors"), which directly limit engine and/or road speed; and (2) speed-monitoring devices, which do not control vehicle speed directly, but rather provide a continuous record of vehicle speed that may be used to determine if speeding has occurred.

In most states the speed limit for heavy trucks on rural Interstate highways is 65 mph. Heavy trucks, notably combination-unit trucks, which are the focus of most of the concern, accumulate much of their travel mileage on rural Interstate highways. Thus, if speed-*limiting* devices were required on heavy trucks, they would have to be designed to allow travel speeds of at least 65 mph in order to permit trucks to travel at speeds up to the legal maximum. In this report, 70 mph is used as a hypothetical value at which speed-limiters might be set. A speed-limiter setting near 70 mph would permit trucks to travel at the speed limit on 65 mph roadways, with some added tolerance for additional power needed for hill-climbing or passing. Data are also provided relating to crashes occurring at speeds greater than 65 mph.

This report notes the fact that most heavy truck crashes do not occur on roadways where very high travel speeds (e.g., greater than 70 mph) are prevalent. More than 90 percent of combination-unit truck crashes and 95 percent of single-unit truck crashes occur on roadways where the speed limit is less than 65 mph, and where the incidence of truck speeding in excess of 70 mph or even 65 mph is low. Speed-limiting devices would have no effect on vehicle speed or crash likelihood at travel speeds below their set point (e.g., 70 mph).

Moreover, speed-limiters would not control speeding on downgrades that are steep enough for the vehicle to be in a free roll. In a free roll situation, vehicle speed is not determined by engine revolutions or gearing but rather by the force of gravity acting against the rolling resistance of the vehicle. Because of the desire to maximize fuel economy, the rolling resistance of today's trucks is minimal, in particular when considered in relation to their weights. Since high truck speeds on downgrades would not ordinarily be affected by speed-limiting devices, this report excludes on-grade crashes from the all target crash problem size assessments of crashes involving speeds greater than 65 mph.

The use of speed-*monitoring* devices--devices which provide a continuous record of vehicle speed during a trip--may be applicable to a broader range of highway travel (i.e., 55 mph and 65 mph highways), assuming that the individual monitoring the vehicle speed data knows the posted speed limit for the highway traveled. In consideration of this broader applicability of speed-monitoring devices, this report addresses truck speeding *in general* as well as speeding in excess of the potential maximum speeds at which mandatory speed-limiting devices might be set (e.g., 70 mph).

For all vehicle types, driver compliance with posted highway speed limits is poor. However, when trucks do speed, it is typically at levels just over the speed limit. The extent of truck speeding in excess of 70 mph varies with the posted speed limit. On highways posted at 55 mph, about 3 percent of trucks speed in excess of 70 mph. On roads posted at 65 mph, about 14 percent of trucks exceed 70 mph. By comparison, about 10 percent of all passenger vehicles (cars and light trucks) exceed 70 mph on 55 mph highways, while about 23 percent exceed 70 mph on roads posted at 65 mph.

Although commercial vehicle drivers are often under economic pressure to move goods quickly and thus possibly to speed, there are also significant economic incentives not to speed. Fuel usage and engine maintenance requirements are considerably less when speeds of less than 65 mph are maintained. Multiple speeding citations for offenders can lead to commercial driver's license suspension--an economic catastrophe for most drivers. Moreover, a cooperative Federal-state program, the Commercial Driver's License (CDL) Program, now exists to prevent drivers from obtaining multiple licenses and/or accumulating multiple speeding convictions in different states with impunity.

Police accident report data suggest that comparatively few heavy truck crashes involve truck travel speeds in excess of 70 mph. Only about 0.2 percent of all combination-unit truck crash involvements, and 0.7 percent of fatal crash involvements, occur at police-reported estimated travel speeds in excess of 70 mph. By comparison, about 0.5 percent of all passenger vehicle crash involvements, and about 6 percent of fatal crash involvements, occur at estimated speeds in excess of 70 mph. In 1988-89, there was an average of approximately 30 combination-unit truck fatal crash involvements where a vehicle travel speed in excess of 70 mph was noted by the investigating police officer. In comparison, there were an average total of 4,063 combination-unit truck fatal crash involvements at all travel speeds. There were 3,614 involvements of all vehicle types (mostly passenger vehicles, but including trucks) in fatal crashes where the vehicle was traveling at speeds greater than 70 mph. Thus, high-speed truck crashes represent a small proportion of both the overall truck crash picture (0.7 percent) and the overall high-speed crash problem (0.8 percent).

Involvement *rates* in speeding-related crashes are also relatively low for combination-unit trucks. For example, the combination-unit truck involvement rate for all crashes with police-reported speeds of greater than 70 mph was on the order of 0.3 per 100 million vehicle miles traveled (VMT) in 1988-89. The comparable statistic for passenger vehicles was approximately 2.4 per 100 million VMT. For fatal crash involvements, the estimated rates were 0.03 per 100 million VMT for combination-unit trucks and 0.19 for passenger vehicles.

Another statistical approach to assessing the role of speeding and speeding in excess of 65 mph in heavy truck crashes is to derive the average number of relevant crash involvements per 1,000 vehicles. This is, in essence, a measure of the annual *likelihood* that a vehicle will be involved in a relevant crash. Annually, approximately 0.18 combination unit trucks per 1,000 registered are involved in a crash at a police-reported travel speed of greater than 70 mph, whereas the comparable figure for passenger vehicles is 0.25. The "likelihood" statistics are more similar for trucks and passenger vehicles than are the "rate" statistics. This is due to the greater exposure of combination-unit trucks to crash risk; on average, these vehicles travel six times as many miles per year per vehicle than do passenger vehicles, and 10-15 times more miles on 65 mph highways.

The speeding-related crash picture for *single-unit* trucks is very different from that of either combination-unit trucks or passenger vehicles. By *all* statistical measures, the numbers of crashes involving single-unit trucks exceeding the posted limit, speeding in excess of 65 mph, or speeding at higher speeds are low. For example, the annual probability that a single-unit truck will be involved in a crash involving a police-reported speed in excess of 70 mph is on the order of 1 in 33,000 (i.e., 0.03 involvements per 1,000 vehicles).

An important caveat relating to all speeding-related crash statistics cited in this report is that the categorization "speeding-related" or "high-speed related" does not necessarily assure that speeding was the *primary cause* of the crash or any resulting fatalities. Virtually all crashes involve multiple contributing factors. The elimination of any one factor--e.g., high speed--may or may not prevent the crash. Thus, the speeding-related and high-speed-related crashes identified in this report should actually be viewed as *potential* target crashes for speed control devices. Although speed control devices (if not tampered with) are likely to reduce the highway speeds of those trucks that do speed, their effectiveness in preventing and/or reducing the severity of these potential target crashes is unknown.

Speed-limiting devices include mechanical engine speed governors, cruise controls, road speed governors, and electronically-controlled engines with transmission/rear axle/tire ratios designed to physically limit vehicle speed. All these approaches have limitations. First, as noted, none of these devices can effectively control downhill vehicle speeds. Truck speeding-related crashes involving downgrades, where the vehicle was in a free-roll, would be unaffected by speed-limiting devices. Mechanical engine speed governors limit the engine's maximum speed, but do not limit the vehicle's top speed unless the engine is matched with a transmission and rear axle geared to also limit top speed. Even then, conventional engine speed governors allow the engine to "overshoot" and thus attain higher than rated vehicle speeds. Cruise controls must be activated by drivers and, therefore, can be set at speeds higher than 65 mph or simply not be activated. Road speed governors, devices that monitor and control actual vehicle speed, can effectively limit truck speed. However, most designs are only tamper-resistant; none are tamperproof. A determined truck driver or truck owner can defeat these devices.

The Environmental Protection Agency's heavy duty engine emission control regulations require more stringent emissions standards in the 1991 model year, with further emissions reductions required beginning with the 1994 model year. New truck diesel engines developed to meet the 1991 standards, and under development to meet the 1994 standards, include electronic controls on engine speed. These electronic controls are intended primarily to ensure that emissions standards are met, but they have the ancillary benefits of improving fuel economy and providing a means of limiting maximum vehicle speed. Thus, a speed-limiting capability is already being built into new heavy duty vehicle engines. This road speed limitation is accomplished by reducing engine RPMs as road speeds approach the governed limit. In order to maximize fuel economy and meet EPA's emissions standards, most buyers specify engine/drivetrain gearing combinations with optimal cruising speed ranges of 55-65 mph. Optimal specifications for a given buyer are dependent on such factors as type and size of loads carried, predominant roadway types traveled, and desired fuel economy. Market penetration of the new engines will increase by approximately 7-10 percent annually until fleet turnover is virtually complete in the early 2000s.

Speed monitoring/recording can be accomplished with a variety of electronic and mechanical devices and can be an effective tool for fleet managers in their efforts to responsibly control the operation of their vehicles. Equipping a truck with a speed recorder does not guarantee, however, that it will be operated within speed limits. Active management involvement in monitoring and following up on data provided by speed recorders is critical to their effectiveness. Moreover, the incremental benefits of installing speed-monitoring equipment may be questionable for those fleets where management practices are already in place to minimize speeding. In spite of these limitations, many fleets currently use speed monitors and are generally satisfied that they are worthwhile. However, no systematic fleet test data were identified to document the actual effectiveness of such devices in reducing crash involvement.

A speed-monitoring system that includes external electronic ports whereby enforcement officials could obtain direct roadside access to truck trip speed data is technically feasible. However, such a system would require elaborate system specifications, industry-wide standardization, and substantial equipment investments by both motor carriers and enforcement officials. Moreover, this enforcement concept raises significant constitutional, legal, and operational issues.

Resolution of these concerns would necessarily have to precede any policy decision requiring the installation of speed-monitoring devices.

Based on the findings of this study, the agency concludes that the Federal *mandating* of speed control devices on combination-unit trucks does not appear to be justified at this time. Problem size statistics suggest that the number of target crashes is low, especially when viewed against the overall truck crash picture or against the overall problem of highway speeding. Speed-limiting devices would not dramatically change the distribution of truck speeds on the highways, since most trucks now travel at speeds below levels likely to be set by the devices, and those that are currently traveling at higher speeds are typically traveling at speeds just a few miles per hour higher. It is not certain whether the marginal reduction of speed for these vehicles would actually reduce their crash risk (or resulting fatality risk) significantly, since other, nonspeed-related driver errors may still occur and cause similar crashes and injuries. For all of these reasons, the potential effectiveness of mandatory speed limitation in terms of either crash reduction or lives saved is questionable.

Numerous, complementary approaches to truck speed control are already operative at the levels of vehicle design, fleet management practice, and driver licensing. Two current trends in particular--the development and market penetration of electronic engine controls and the establishment of the Commercial Driver's License Program--are expected to further mitigate against truck speeding. The CDL Program targets flagrant and/or repeat speeding offenders, the same operators who would be most likely to defeat or circumvent mandatory speed-limiting devices.

All motorists--commercial and private vehicle operators alike--need to do a better job of voluntarily complying with posted speed limits on highways. Highway speeding appears to be a widespread highway safety concern that is not limited to commercial motor vehicles. Public information and education programs, coupled with increased speed enforcement (for all vehicle types) may be the best method of achieving improved highway speed limit compliance.

ALCOHOL FATALITIES

Mr. WOLF. How many accidents are there, fatalities, a year in this country?

Mr. SMOLKIN. 39,200 in 1992.

Mr. WOLF. How many were related to the use of alcohol?

Mr. BROWNLEE. About 18,000, we estimate in 1992, were alcohol-related fatalities.

Mr. WOLF. About half. Is that the biggest hit we get? How can you deal with the alcohol-related problem?

Mr. BROWNLEE. There is some duplication and overlap in these as well. Those that are involved with alcohol are often not wearing their safety belts, and there is some double counting that occurs. But from the behavioral point of view, we believe that reducing alcohol-related fatalities and increasing safety belt use is the best that we could promote.

Mr. WOLF. And of the 18,200, how many were teenagers under the age of 21?

Mr. BROWNLEE. There were about 3,100, if I am correct on the data, alcohol-related fatalities age 15 to 20 in the 1991 data. I don't think we have that for 1992 yet. Slightly over 3,000. And those numbers are down substantially in the last 10 years. It was over 5,000 in 1982. Now it is over 3,000.

Mr. WOLF. That is a large number. It seems the more we can do with regard to education would help particularly with young people.

YOUTH ALCOHOL EDUCATION PROGRAMS

Mr. BROWNLEE. Education is an important component of that. There are other components that need to be at work in that, including law enforcement. There needs to be some special techniques to enforce driving laws for young people. Young people drink and drive in different places than adults do. There is work that needs to be done in the enforcement community.

Mr. WOLF. Is it an enforcement problem?

Mr. BROWNLEE. I think enforcement might get the nod.

Mr. WOLF. They go hand in hand.

Mr. BROWNLEE. Yes.

ANTI CAR THEFT TASK FORCE

Mr. WOLF. I think the last question—I don't want to take up the committee's time on this—is, I saw the 60 Minutes show on the resale of automobiles that are totaled. And I wrote Secretary Pena a letter. I said, I have become aware of a growing problem regarding salvaged automobiles, and I am writing to encourage your appointment of Members to a congressional advisory committee to report to Congress. There is a widespread problem involving salvaged automobiles and the improper titling of these vehicles which are being sold to unsuspecting consumers.

I got a letter from the Secretary dated April 5, about a month ago, that said, thank you for your letter regarding the task force mandated by the Anti Car Theft Act of 1992 to study problems related to the titling of salvaged motor vehicles and the subsequent sale to unsuspecting consumers. I agree with you and assure you that the Department of Transportation is moving toward the establishment of a task force to address the issues.

The National Highway Traffic Safety Administration is assembling a slate of nominations for the task force. I expect to establish the task force shortly.

Mr. SMOLKIN. Yes, sir. The task force has been established.

Mr. WOLF. How many members are out there?

Mr. BOEHLY. I believe there are 21 members.

Mr. WOLF. When was that done? I thought they would let us know.

Mr. BOEHLY. It was approved last Friday by Secretary Pena, and I am advised by the Secretary's office that Congress was advised yesterday and today. So you may not yet have been advised, but they are taking steps to do that.

Mr. SMOLKIN. We are putting out another Federal Register notice to alert the general public.

Mr. WOLF. That is very important. Michigan has a very good record, according to the 60 Minutes report. I don't know what Virginia's record is. But it looks like a serious problem from a safety point of view.

Mr. BOEHLY. We have issued a press release on that, Mr. Wolf, prior to the 60 Minutes show. We basically, advised individuals when they buy a vehicle to be sure that it is checked by a certified mechanic to see if it was reconstructed out of salvaged parts. That is the best we can do.

Mr. WOLF. How will the task force work? How long will it exist? Ninety days? And then report——

Mr. BOEHLY. There is a statutory mandate that we report to the President, Congress and the executive officers of each State one year after the start of the task force.

Mr. SMOLKIN. April 1994.

Mr. WOLF. I think if you could have the task force finish up by the end of this calendar year it would be helpful because, if you are going to catch State General Assemblies, most convene in January. So if you wait until April of 1994, most have adjourned. So you are not going to be able to do anything in most States until 1995.

So if the task force could make that data available sometime in early to mid-December and get it out into the State legislative groups, I think you might be able to success.

Thank you. I think what you are doing is really important, and if we can be of any help, let us know. Thank you.

I have no further questions. Mr. Chairman.

OVERWEIGHT CONTAINER LAW

Mr. CARR. The committee is delighted to have as our guest today, Helen Bentley, Congresswoman from Baltimore. She is a good friend, a Member of the full Appropriations Committee. She is a Member of the Labor-Health and Human Services-Education Subcommittee and the Military Construction Subcommittee. Her staff called the other day and indicated that she had an interest regarding a particular recall.

So without objection of the Subcommittee, we would like to recognize Mrs. Bentley for about 10 minutes.

Mrs. Bentley. Thank you, Mr. Chairman. I would like to thank you and Mr. Wolf for extending me the courtesy of joining with you today while the officials of NHTSA are here.

I have enjoyed the hearing so far because there are many matters that have been brought up that affect my State and District as well. And, I might note that 12 of those 16,000 nonalcoholic teenage deaths in 1991 were youngsters in my district who were speeding.

And I might comment, Mr. Wolf, that last year the Congress passed an overweight container bill which happened to be mine when I was on the Public Works and Transportation Committee. It is estimated that about 3 million truck accidents a year are caused by overweight containers. The regulations on the overweight containers that should go into effect later this year. Hopefully, that will relieve some of the problems with the trucks.

In driving one of the matters that I have been a constant complainer about in driving is the lack of proper paint and demarcations on the roadways, especially at night and in rain. I think that is an area that should be emphasized, and I believe it would be a great help to drivers. Just my comments.

NISSAN MINI-VAN RECALLS

As the Chairman said, I came to the committee because of my concern about the recall of Nissan mini-vans. I do know that Mr. Regula asked some questions about the vans when he was here this morning. I have been interested in the vans because a number of constituents and friends from around the country have called me about these Nissan recalls. I just want to review it briefly with you.

The first recall was July, 1987, for defective valve cover gaskets to stop oil leaks that covered 10,000 vehicles.

The second recall was in July 30, 1990, after complaints that from van owners that Nissan ordered a recall for a defect which started with a power steering hose—spread to fan couplings which would cool the engine and, to brake power assist vacuum hoses and radiator hoses.

The third recall was in February, 1992, again with cooling system hoses but the recall spread to other engine parts. It was after that, that NHTSA received letters from some 20 attorney generals from around the States asking that NHTSA take prompt, tough action to ensure the safety of 20,000 1987, 1990 model Nissan mini-vans on the roads because claims of engine fires and other serious defects.

Now, in a pre-recall memo, dated March 23 of this year, Nissan is notifying customers that it is planning another recall, but it will take several months. The Nissan letter states, "through an ongoing evaluation process we have identified a new problem in 1987–1990 vans concerning the possibility of engine overheating. And in extreme cases this could lead to an engine compartment fire."

Contrary to the claim in the notice that all previous recall problems have been safely corrected, they have not. Many owners have been back and back and back for the same problems. Van owners have complained that Nissan representatives have told them that their problems cannot be replicated when they take their vans in for repair. Over 125 van owners in the U.S. are complaining about overheating in the engine compartment, and at least 16 have burned.

And Lori Kelly, who called our office yesterday, who is a van owner from Florida, called and asked for help. She had trouble with her van seriously overheating, and seven miles from her home she had to have it towed. It was towed 40 miles away from where she lives. The Nissan representative called her and told her there was nothing wrong with her van. Lori has two small children, and she is scared to drive the van because she believes it is not safe.

Lori's story is repeated many times with van owners. According to the Insurance Institute of Highway Safety, which submitted statistical analysis of highway loss institute data to the committee, Nissan vans are twice as likely as the average to have a fire. We will get the exact figures later today.

What I am really asking you is, what plans does NHTSA have of making the public aware of this problem and of helping the van owners that contact your agency?

Mr. Boehly. A number of things I would like to touch on.

First, you mentioned the attorney general's letter. Mr. Smolkin, back on April 6, responded back to Mr. Blumenthal, who is the attorney general from the State of Connecticut, and raised that issue with us, indicating to him the concern the agency had about this matter.

As you would suppose when we have three safety recalls on the same vehicle, that is of major concern to this agency. On the basis of that concern, we were planning to audit the recalls, which is a routine process where we would have gone back to the manufacturer, and sought from the manufacturer, instances of fires in those vans that received the recalls. Before we would have done that in April of this year, we were petitioned to conduct a hearing on the adequacy of the recalls. That prompted us to contact Nissan and ask for their experience.

As you pointed out, there are many complaints with these vehicles. There are numerous fires with these vehicles. We are aware of 12 fires that have occurred in these vans in which all three recalls have been conducted. And also, as you pointed out, Nissan recently came in and said they were going to conduct a fourth safety recall.

We wanted to ensure that the recall that they were going to conduct was going to be adequate in terms of addressing the problem. We invited them in. They came in on April 15th and gave us an exhaustive presentation of all the steps that they indicated they would take to try to completely and comprehensibly address this problem.

As you had mentioned, there are other data which came into the agency from the Insurance Institute for Highway Safety, which I have not seen but am aware of in terms of chatting with them yesterday. We have not reviewed that data yet.

However, I will say that, in our review of insurance claims data, comprehensive fire claims for these vans are overrepresented. This is for all vans regardless of whether the recalls had been conducted or not. If we look at just that segment of the vehicles that had all three recalls conducted, they are not statistically different from other vans. But, nevertheless, I want to personally review the IIHS data.

Additionally, complaints continue to come in from the various consumers around the country on this matter. We are looking at all this data. The recall looks like it would address the problem, but we would like to ensure that it completely addresses the problem before we take action on this petition.

It is an open matter before the agency. Concerning this petition, we would either deny the petition on the basis of actions that Nissan has taken and conduct an extensive recall audit three months after the recall had taken place, basically going to each and every owner ourselves and asking experiences that they had had. Or, we could grant that petition and have such a public hearing and go through the process, look at the adequacy of that recall, the steps that Nissan has taken and decide what actions should be taken by the agency after that public meeting was over.

So that is the status of where we are. We will make a decision very shortly on this.

NISSAN RECALL DELAY

Mrs. **Bentley**. I guess one of the things that bothers me the most in this is that when a Detroit-manufactured automobile or pickup truck such as the GM C/K has a problem, NHTSA seems to act immediately. Within five months in that particular case of GM for a voluntary recall, but the Nissan van has been dragging on for five years. This really bothers me as to whether we are making exceptions.

Mr. **Boehly**. I don't think we are, Congresswoman. We have had a number of investigations into this matter. We have sought recalls from Nissan, and they have indicated they would do them, and they have done them.

The question of whether they are adequate or not is before the agency, and we need to look at it. If we were not given information indicating that Nissan would, in fact, take aggressive action to completely and comprehensibly remedy this program we would have sought more aggressive action by the organization.

NISSAN LEGAL REPRESENTATION

Mr. **Wolf**. Would the gentlewoman yield?

Who is representing Nissan in town today? What law firms come before you to argue with regard to this recall?

Mr. **Boehly**. The presentations have been by Nissan.

Mr. **Wolf**. No; Washington law firms?

Mr. **Boehly**. They have had counsel represent them. Mayer, Brown and Platt.

Mr. **Wolf**. Any prominent people from Republican or Democratic administrations?

Mr. **Boehly**. The former chief counsel of NHTSA.

Mr. **Wolf**. The former chief counsel of NHTSA, for the record, what is her name?

Mr. **Boehly**. Erika Z. Jones.

Mr. **Wolf**. How long was she the counsel?

Mr. **Boehly**. She was the counsel several years.

Mr. **Wolf**. When did she leave?

Mr. **Womack**. May of 1991.

Mr. Wolf. May of 1991?

Mr. Womack. May of 1989.

FOREIGN MANUFACTURER REPRESENTATION

Mr. Wolf. I would like the record to show, if you could go back and find out, of those lawyers that are representing the Japanese car manufacturers in a case like this, who used to work for the Department of Transportation or work for NHTSA. I personally, and I don't want to get on to this because I don't know that much about this issue, but I am so offended by people, Republicans and Democrats, who earn their knowledge and living at the taxpayers' expense, and then take that knowledge and go out and represent foreign competitors and even foreign countries who are beating American companies over the head, and therefore taking jobs away from Americans.

Now, I think Nissan has the right of legal representation, and let me just say, the gentlelady from Maryland and I don't always agree. I am a free trader, I have never voted for a protectionist bill since I have been in Congress. Never. I believe in free trade and I believe on a level playing field we can compete better. The American worker is better.

But I really get offended by people who learn their expertise and knowledge at taxpayer expense, and then go out and work the other side, for foreign competitors. It bothers me, and I apologize for interrupting, but I wanted to find out who was representing Nissan, and I think it is something that the record ought to show.

It is not legally wrong, but I certainly think it is morally wrong.

Mrs. Bentley. Mr. Wolf, I am very glad that you brought that out rather than I. I was not aware of that, but I am delighted that you brought that out, because it also offends me, and I know it offends Mr. Carr as well.

I have about five more questions, Mr. Carr. I am not going to take your time here; I will submit them and ask them to please answer them, and again, I want to thank you for the courtesies extended to me.

Mr. Carr. Thank you, it is nice to have you with us today.

NISSAN MINI-VAN PROBLEMS

Mrs. Bentley. If heat, which has been the problem for five years, is not the problem in the inner compartment and engine itself, then why are there countermeasures being taken by Nissan specifically to reduce the heat?

[The information follows:]

The operating environment within any engine compartment necessarily involves heat. It is important that vehicle components which must be located within the engine compartment are able to withstand a high temperature environment. The engine compartment temperature of most full-size and compact vans might be expected to be higher than those found in typical passenger cars and light trucks because of the reduced airflow to the engine compartment in these vehicle configurations. However, testing indicates that the engine compartment temperature of the Nissan van, when all vehicle components are operating properly, is comparable to the engine compartment temperature of other manufacturers' mini-vans and passenger cars.

The earlier recalls were to fix components that failed after exposure to sustained high temperature. The latest recall by Nissan will serve to ensure that, under all operating conditions—including those in which engine cooling components may fail—underhood temperatures will be maintained that will not allow components to fail which could result in underhood fires.

NISSAN RECALLS

Mrs. **Bentley.** If the previous three Nissan recalls on the minivans were effective, then why has each succeeding recall been based on repeating and correcting work done in the previous recall?

[The information follows:]

Clearly, the previous three Nissan safety recalls have not been effective in reducing fires. Based on NHTSA's review of the fourth recall, we believe that it will comprehensively address the fire problem. Concerning the earlier recalls, each recall was adequate in correcting the specific defect identified in the particular recall. NHTSA is unaware of any engine compartment fire that has occurred from a source that was previously involved in a recall, and the recall remedy was performed correctly. In the second and third recalls, Nissan ensured that the remedies from prior recalls were performed and that the repair was done correctly. There were instances that previous recall work had to be repeated and corrected because the repair had not been done in accordance with established procedures.

NISSAN HOTLINE COMPLAINTS

Mrs. **Bentley.** The number and types of complaints should be part of the record at NHSTA. Van owners have called NHTSA and have been referred to a Nissan hotline for complaints, which have gone unanswered. What provision is NHSTA making to ensure that the agency will be directly responsible for consumer complaints, and what measures do they intend to take for record-keeping of complaints at NHSTA?

[The information follows:]

The agency maintains a consumer complaint database that is used to identify potential safety defects and to monitor the performance of safety recalls. All consumer complaints are reviewed, and copies are routinely sent to manufacturers of the vehicle involved. These consumer complaints are used to indicate when defect investigations are warranted, as well as when recalls are not preforming adequately.

During the upcoming Nissan van recall, we have directed Nissan to provide us with a copy of each fire report, of any type, concerning a Nissan van, from April 1, 1993, forward. Also, all owners of Nissan vans will be advised to call NHTSA in the event of an underhood fire. Nissan has also been advised that NHTSA will conduct a full audit of the recall this fall. Part of the audit includes a survey by NHTSA of all the Nissan van owners to determine if they have any problems or complaints with the recall or if they have experienced a fire. If the agency discovers any recall problems or fires, we will initiate corrective actions immediately.

Mrs. **Bentley.** What provisions is NHSTA making to warn the public about purchase of nonoriginal components as the warranty expires on their vans? Nonoriginal parts will create another set of problems for NHSTA.

[The information follows:]

Concerning safety recalls, all parts for the recall will be provided only through Nissan dealers, so all parts will be original. All parts and labor will be provided cost-free to owners. In addition, Nissan is warranting the vans for 6 years or 100,000 miles. Owners are encouraged to take advantage of this warranty and to use the manufacturer's recommended replacement parts or a part which meets or exceeds Nissan's specifications. It should be noted that substandard replacement parts which do not meet Nissan's requirements would be a problem for owners of all types of vehicles, not just Nissan vans.

Mrs. **Bentley.** Nissan's fourth pre-recall notice focuses the replacement of the fan belt. Owners have been reporting fan belt problems since they purchased their vans, and the fan belt has been on the check list for previous recalls, so why has Nissan not determined this has been a problem at an earlier stage?

[The information follows:]

First, the fourth recall is much more comprehensive than replacement of the fan belt. The basic recall components include the replacement of the drive mechanism for the entire engine cooling system (numerous components are involved, one of which is the fan belt), installation of an auxiliary electric fan to assist in cooling, and the installation of a new radiator to improve the control of engine temperature.

Concerning fan belts, consumer complaints to the agency have not included reports of water pump fan belt failures. We would expect consumers to mention such a problem if it occurred, since a water pump fan belt failure will not only stop the coolant circulation within the engine, but also cause other vehicle systems to become inoperative, such as the alternator, which provides electrical battery charging. Failure of the fan belt would result in warning lamps being illuminated on the instrument panel of the vehicle. Thus, NHTSA had not received any data, prior to the investigation leading to the most recent recall, indicating a fan belt problem.

Fan belts were never singled out for replacement in any of the prior Nissan van recalls. The 1990 recall included a list of items which were to be specifically examined and replaced as necessary, but did not specify fan belts. The second recall remedy included a statement that any component that may have been affected by power steering fluid should be replaced. The 1991 recall included the fan belt as part of a comprehensive list of components to be checked for indications of wear or deterioration. Examination of components which may have become deteriorated is prudent action for any manufacturer to take in any safety recall and is encouraged by NHTSA.

MAJOR CAUSES OF DEATH

Mr. CARR. Before moving on, I just want to offer for the record a chart, the source of which is the monthly Vital Statistics Report.

I put this chart in the record because it relates to the discussion we had earlier about death rates. It points out on a percentage basis that deaths from diseases of the heart is 33 percent of total deaths; malignancies of one form or another, including cancers account for 23.8 percent of the deaths; cerebral vascular diseases account for 6.7 percent of the deaths; and motor vehicle accidents account for 2.1 percent of all deaths.

Again, we want to get some statistical basis for knowing how much we are devoting to this. Do what you can do to break the statistics down from the standpoint of premature or preventable deaths and injuries.

I think it would be important for us to develop in future years some kind of indexes of spending in relation to the proportionality of the threat and the problem, and then to get some analysis across the spectrum and find out how much money are we spending in research on cardiovascular diseases and cancers, and see if we are spending in rough relation to the threat that the average citizen has in their daily lives.

[The information follows:]

FIVE LEADING CAUSES OF DEATH IN THE US

(Dollars in thousands)

Disease	Per 100,000 Deaths	% of Total Deaths	FY 1993 Estimate
Diseases of the Heart	283.3	33.20%	$751,618
Malignant Neoplasms, Including Neoplasms of the Lymphatic and Hematopoietic Tissues	209.9	23.80%	2,138,933
Cerebrovascular Diseases	56.8	6.70%	107,899
Accidents and Adverse Effects (total)	36.2	4.20%	94,323
Motor Vehicle Accidents	17.8	2.10%	(5,233)
All Other	18.3	2.10%	(89,090)
Chronic Obstructive Pulmonary Diseases and Allied Conditions	35.2	4.10%	50,836

Source: Monthly Vital Statistics Report: Provisional Data Annual Summary of Births, Marriages, Divorces and Deaths: U.S. 1991

Note: Based on provisional data from the first 10 months of 1992, the top five leading causes of death are expected to remain the same. Data projecting 1993 leading causes of death are not yet available.

Mr. PARKER. Mr. Carr, I have seen some statistics, just as you have asked for, comparing the dollar spent per life lost; and I can provide that for the record.

RESEARCH DOLLARS PER LIFE LOST

Mr. CARR. Anything you have in this area would be appreciated. You folks look at this data more than we do on a daily basis. If you come across something that is really quite interesting, do let us know what our goals ought to be in terms of investment, what our expected outcomes can be, and where we have the greatest opportunity to make strides. We would also like to know of any data—whether it is motor vehicle deaths and injuries or some other form of death and injury—to decide within the automotive sector how we can better spend our money.

I really would like to produce a criteria-based analysis, a cost-benefit-based analysis of the way your agency spends its money.

We are doing this in the area of public investment with highways and airports and runways, but I think the same applies to research and development. Our own knowledge and skill at this is not as far along. But, we will want to apply what we are learning in terms of investment criteria to the risk/reward ratios of various kinds of research so that we can assure the taxpayers that when we spend money in automotive research, we are going for those things for which there is the greatest potential for payoff, as opposed to solving some problem that is motivated more out of some political consideration based on some person or small group's motivations of one kind or another.

So, we will look forward to working with you in developing that kind of database.

[The information follows:]

In 1985, "Injury in America" was published. It included data on injury, the bulk of which is motor vehicle related, cancer and heart disease/stroke in the early 1980's. These data are summarized below:

Health problem	Life years lost	Research expenditure
Injury	4.1	$112
Cancer	1.7	998
Heart disease/stroke	2.1	624

These data show that injuries have not received the relative attention of other potential threats to life of the American people. Motor vehicle injuries comprise about two thirds the life years lost as a result of all injuries, as they affect a younger population than other high incidence injuries, such as falls, which affect a much older population.

The agency has developed detailed estimates of the cost of motor vehicle injuries and fatalities, details of which have been presented elsewhere in the record. These data show that the cost of motor vehicle crashes was $137.5 billion in 1990. Agency estimates show that achieving the modest goals set by the Secretary of Transportation (75% belt usage, 43% alcohol related fatalities) will save society over $1 billion a year in reduced medical costs alone.

In addition to this focus on fatalities, the agency is very active in the field of developing methods to measure the consequences of injuries on survivors. Specifically, the agency is developing a Functional Capacity Index, which will allow comparisons to be made of the reductions in functional capacity from injury, similar to the concept of Years of Potential Life Lost. Funding for validation of this index is included in the agency's FY 1994 request.

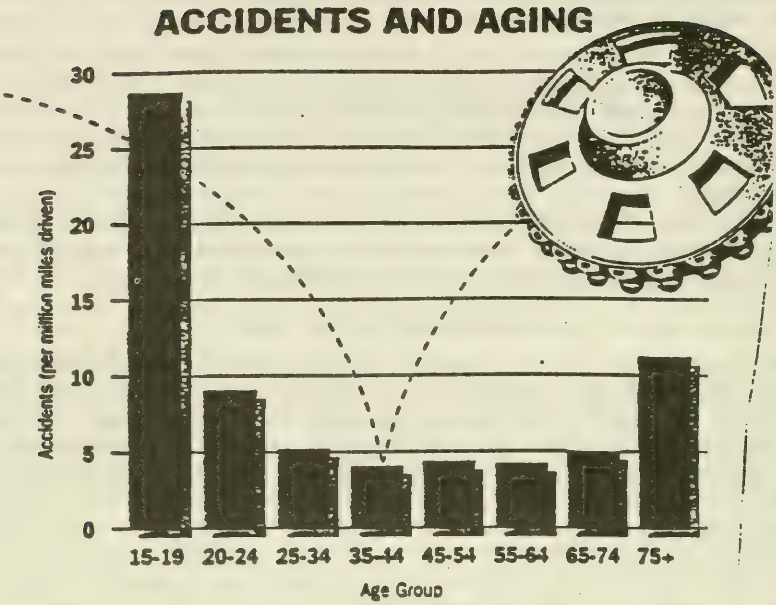
Mr. Carr. We have a lot of questions that have surfaced as a result of our discussion. I might say that because I committed to allowing my good friend and colleague, Chairman Lou Stokes of the HUD and Independent Agencies Subcommittee—to use our hearing room today, we won't be able to go as long as I would normally like.

I would like to be able to conclude so that we don't have to call you back, but the work that you do is important, the money that we spend is a lot, and I want to be as thorough as possible.

ACCIDENTS AND AGING DATA

Mr. Carr. A lot of the questions that we have will be submitted for the record. I have another chart which supports what you said about the accident rates among persons of various ages. It shows that for the 15- and 19-year-old category, the accident rate is very, very high. I would like to submit this chart for the record, unless there is objection.

[The chart follows:]



Source: Transportation Research Board

The attached Research Note presented crash data and rates for various age-sex groups of drivers for calendar year 1990.

TABLE A

1990 MALE DRIVER CRASH AND FATALITY DATA

DRIVER AGE GROUP	LICENSED DRIVERS (thousands)	AVERAGE ANNUAL TRAVEL	TOTAL MILES OF TRAVEL (millions)	DRIVERS IN ALL CRASHES (thousands)	DRIVERS IN FATAL CRASHES	DRIVER FATALITIES	CRASH INV RATE (*) (per VMT)	FAT.INV. RATE (*) (per VMT)	FATALITY RATE (*) (per VMT)	CRASH INV RATE (*) (per LIC.)	FAT.INV. RATE (*) (per LIC.)	FATALITY RATE (*) (per LIC.)
15-19	4,913	9,543	46,885	975	5,407	2,434	2,080	11.53	5.2	198	1.10	0.50
20-24	8,804	16,784	147,766	1,146	7,183	3,397	776	4.86	2.3	130	0.82	0.39
25-29	10,239	18,517	189,596	1,044	6,691	2,925	551	3.53	1.5	102	0.65	0.29
30-34	10,507	19,592	205,853	857	5,579	2,349	416	2.71	1.1	82	0.53	0.22
35-39	9,683	19,298	186,863	714	4,420	1,791	382	2.37	1.0	74	0.46	0.18
40-44	8,610	19,396	167,000	549	3,327	1,296	329	1.99	0.8	64	0.39	0.15
45-49	6,642	18,836	125,109	404	2,510	970	323	2.01	0.8	61	0.38	0.15
50-54	5,376	18,081	97,203	305	1,980	789	314	2.04	0.8	57	0.37	0.15
55-59	4,855	17,027	82,666	249	1,645	679	301	1.99	0.8	51	0.34	0.14
60-64	4,738	13,308	63,053	223	1,435	689	354	2.28	1.1	47	0.30	0.15
65-69	4,266	10,432	44,503	203	1,212	623	456	2.72	1.4	48	0.28	0.15
70-74	3,242	9,722	31,519	141	974	543	447	3.09	1.7	43	0.30	0.17
75-79	2,183	8,635	18,850	97	794	497	515	4.21	2.6	44	0.36	0.23
80-84	1,151	5,424	6,243	45	527	354	721	8.44	5.7	39	0.46	0.31
85 +	583	3,764	2,194	27	316	237	1,230	14.40	10.8	46	0.54	0.41
TOTAL	85,792	16,497	1,415,303	6,979	44,000	19,573	493	3.11	1.4	81	0.51	0.23

TABLE B

1990 FEMALE DRIVER CRASH AND FATALITY DATA

DRIVER AGE GROUP	LICENSED DRIVERS (thousands)	AVERAGE ANNUAL TRAVEL	TOTAL MILES OF TRAVEL (millions)	DRIVERS IN ALL CRASHES (thousands)	DRIVERS IN FATAL CRASHES	DRIVER FATALITIES	CRASH INV RATE (*) (per VMT)	FAT.INV. RATE (*) (per VMT)	FATALITY RATE (*) (per VMT)	CRASH INV RATE (*) (per LIC.)	FAT.INV. RATE (*) (per LIC.)	FATALITY RATE (*) (per LIC.)
15-19	4,336	7,387	32,030	618	1,850	775	1,920	5.78	2.4	143	0.43	0.18
20-24	8,093	11,807	95,554	660	1,950	809	691	2.04	0.8	82	0.24	0.10
25-29	9,656	11,191	108,060	603	1,858	756	558	1.72	0.7	62	0.19	0.08
30-34	10,071	10,785	108,616	538	1,595	618	495	1.47	0.6	53	0.16	0.06
35-39	9,371	11,437	107,176	456	1,301	515	425	1.21	0.5	49	0.14	0.05
40-44	8,295	11,021	91,419	372	1,111	451	407	1.22	0.5	45	0.13	0.05
45-49	6,378	9,956	63,499	267	745	350	420	1.17	0.6	42	0.12	0.05
50-54	5,108	8,693	44,404	173	622	282	390	1.40	0.6	34	0.12	0.06
55-59	4,582	7,681	35,194	149	488	261	423	1.39	0.7	33	0.11	0.06
60-64	4,497	6,706	30,157	126	491	275	418	1.63	0.9	28	0.11	0.06
65-69	4,109	5,885	24,181	110	488	277	455	2.02	1.1	27	0.12	0.07
70-74	3,107	4,673	14,519	89	475	276	613	3.27	1.9	29	0.15	0.09
75-79	2,084	3,570	7,440	56	383	246	753	5.15	3.3	27	0.18	0.12
80-84	1,078	3,300	3,557	29	226	170	815	6.35	4.8	27	0.21	0.16
85 +	456	1,615	736	14	92	70	1,901	12.49	9.5	31	0.20	0.15
TOTAL	81,221	9,438	766,544	4,260	13,675	6,131	556	1.78	0.8	52	0.17	0.08

(*) Rates are per 100,000,000 Vehicle Miles of Travel and per 1,000 Licensed Drivers

NON-ORIGINAL VEHICLE PARTS

Mr. Carr. The Inspector General has done a tremendous job with regard to this issue of bogus or undocumented parts. They have concentrated in the area of aircraft, where the costs of a part are very, very high if they are TSOed—technical standard ordered—as compared to their non-TSOed counterpart, giving great incentive for a bogus or counterfeit undocumented parts industry.

But it is also clear that the IG has conducted some research relative to the other modes of transportation—shipping and—maritime, rail, and indeed automotive. There is really quite an issue, which also overlaps with the intellectual property issue; that is, the design of a part and the copyright or patent of automotive parts. I wonder to what extent you folks have focused on this in tandem with what the Inspector General found.

The big three auto companies and the foreign manufacturers spend a lot of time and money certifying the crashworthiness of their vehicles. They use materials of certain strengths and gauges to get certain energy absorption effects. The sled tests and all the things that go into the certifying to your standards are very, very expensive.

These manufacturers, quite naturally, have to recover their costs and spread the cost of all of that over not only just the original automobile, but any parts that they sell—the replacement parts.

Then we get this situation where the insurance industry in America, together with the plaintiff's bar, is producing an incentive for people to get the lowest possible cost to repair a fender-bender. Except in doing that, they drive the auto body shops and others who do the repair work toward getting cheap knockoffs, fenders that look like the original fender and cosmetically are the same, but may not have the same crashworthiness. That is not a legal concept, but it is analogous. You end up voiding the certification of that car for what it was designed to do.

Have you looked at that problem? Are you giving any vigorous attention to it?

Mr. Smolkin. The issue has come up in a number of contexts. It is a very difficult issue because, in regard to our standards and whether you comply with the standards, the standard tends to be based on the vehicle as a whole as opposed to the strength of the door that might be replaced. We don't have door-specific standards in that regard. So we don't have a mechanism for testing whether one door or another door in a given car works better.

There has been, as you point out, substantial controversy between the original-equipment manufacturers and the insurance companies as to whether there is, in fact, a substantial difference in parts and their safety validity. From time to time issues do come up, such as—we have looked at the question of bolts in a particular case to see whether they were substandard, but we have not done any across-the-board investigation of this issue.

Mr. Carr. Well, I would ask you to look at this in a threshold way. These tests are very expensive, and apropos of my recent remarks about how we need to do things in a cost-effective way, I don't want to violate my own principles here.

But, perhaps someone could take a few hours and do an intellectual exercise, anyway. If we took an automobile with all that we know about its size and its integrity in terms of safety standards and its attainment of safety standards with the automobile as a whole, and then ask what if we go out here on the market to the local body shop and get a hood replacement that is a knockoff part. And, suppose we theorize that this car had a front-end type of a collision, maybe nonfatal, where engine mountings and radiators had to be replaced. We take one of these cars apart and put it back together with all the knockoff parts and then put it on a sled, or do a barrier test, and then see if the meters come out in a nominal rate; and see what would a test like that cost. Perhaps, we could put some of this controversy to rest.

I understand that what the other side says is that it is getting ripped off on parts, et cetera, et cetera, putting aside the intellectual property issues of form and function.

Perhaps you could just have someone do an intellectual exercise one afternoon to see what a test like that would cost and what it might show.

Mr. BOEHLY. We did consider that issue a number of years ago, because it was brought up to us by the Motor Vehicle Manufacturers Association and we did what you indicate. We sat around with a number of engineers talking about what kind of forces happen in a crash and what kind of structures absorb these forces. And as you might guess, our assessments and back-of-the-envelope calculations indicated that the vast majority of the forces are absorbed by the motor vehicle structure and not the fenders and other body panels.

And we have asked if anyone has done a crash test where one has taken a car from the showroom and then taken a car with replacement parts, and seen any indication that there is a difference in the injury measures as recorded by instrumented test dummies? We are not aware of any such data.

To address your cost question, a vehicle is about $20,000, a crash test is $15,000, so you would be looking at a $35,000 cost to run a crash test of a new vehicle. Plus, another $15,000 to run the crash test, plus whatever the used vehicles would cost. So it would probably cost $100,000 to run a series of such crashes, just to give you an indication.

And, again, you have to look at variability that occurs in crashes from car to car. If you took three cars, you would get differences in the injury measurements; but the question is, is there a difference between injury risk in the replacement parts car and the one that would come off the assembly line?

AUTOMOBILE CONTENT LABELING REGULATIONS

Mr. CARR. I don't want to get overly focused on the fenders and all, but there are parts which are core to the energy absorption characteristics of an automobile. The idea is that perhaps there are some core structures inside the motor vehicle that we ought to be more insistent are original standard parts for safety reasons.

And the parts don't have to come from the original makers. They might come from the original supplier.

But, there is a notion of integrity here. I have the feeling of being a pilot carrying my aircraft analogies over to the automotive world. You have to consider whether that is an appropriate thing to do. But in the aircraft world, you just don't allow parts that are not standard anyplace on the aircraft. It is just not done. And that is where we get this issue.

Last year in the Conference Committee, the conferees adopted legislation that I proposed in response to other legislation that the Senator from Maryland, Barbara Mikulski, proposed for content labeling. It is up to your agency to issue the rules, and I wonder where you are on all of that.

Mr. FELRICE. Mr. Chairman, we had a public hearing back last winter on this subject, as well as a formal request for comments. Where we are right now is that we are preparing the notice of proposed rulemaking. We developed this in consultation with the Department of Commerce, with Customs, Treasury. And so we have tried to learn from what they have.

We have tried to make the proposed rule as consistent with what they already require in terms of content labeling, so as not to reinvent the wheel, and to minimize costs on manufacturers. We hope to issue that NPRM in the next few months. We hope to get the final rule out either late this calendar year or the first couple of months next calendar year. It must go into effect by October 1994.

Mr. CARR. I hope you would keep this Member—because I was the author of that legislation—up to speed on exactly where you are at all times. Your testimony today, I think, justifies the wisdom of the one issue that I had with the Senator from Maryland over the timeliness of the new requirements. I think Ms. Mikulski wanted October 1993. Given the time needed to put rules together, that date would make it very hard and impossible to do.

Now, I understand that you received many comments from the foreign manufacturers, claiming that the legislative requirements are very unfair. I would show my colleague an article that I have, since he is interested in who represents whom in the automotive world. They are entitled to their point of view and they are entitled to representation. There is no doubt about it. I don't know that I get as excited about former government officials doing some of this as Mr. Wolf does, but the fact of the matter is, it seems to me, that the foreign manufacturers are the ones that have been misleading people.

I was interested, though, in the claim of BMW and some of these companies which make no bones about being foreign. They actually like that designation. And don't try to identify them through some kind of a transplant assembly line, which contributes only 4 percent of the total value of the car. And they don't want to have the cost of going through the exercise when they don't care. They would just as soon claim that they are 100 percent foreign.

Is that something that you think the law would allow you to do? As I recall when we were drafting the legislation, we did not consider that a number of manufacturers might just come in and say that we are foreign.

I am not interested in imposing all kinds of extra costs on them to do audits. If BMW wants to claim that they are 100 percent foreign, do you have authority under the statute to make a provision where they could essentially say that and not have to go through the cost?

Mr. Felrice. We haven't reached a final conclusion yet. And I will couch the rest of my answer with that caveat.

Mr. Carr. I didn't ask you what rule you put out. I am asking you whether you think the law, as it exists, gives you the authority to recognize that situation when—I will admit—we didn't see that possibility when we drafted the law.

Mr. Felrice. At this stage, yes, we do think the law allows some flexibility there.

TRAUMA CENTERS

Mr. Carr. Another area of off-the-top-of-the-head inquiry here has to do with this subcommittee's bad habit in the past of earmarking funds for trauma centers. Now, I visited one of those trauma centers that this subcommittee in the past has financed. If the people there had in mind that I would continue funding them because I was invited to visit them, they were wrong. I think Mr. Wolf agrees—I am not going to put words in his mouth, but we have talked about how we are going to handle this bill this year, and I think we are working well together and in sync—with my notion that we ought to take the scarce money that we have, particularly in the safety area, and put it into preventing injury and preventing fatalities. Unfortunately, we know that people are human and devices are imperfect and not all of our efforts at safety will succeed. It seems to me, however, that once there is a failure, that becomes a health issue and not a transportation issue and that trauma centers, their budgets and their priorities ought to be evaluated in the context of larger health-related budgets.

Not that the work they do is unimportant; it is. But the point is that maybe Mr. Natcher's subcommittee ought to be concerned about what kind of health care facilities we finance in America relative to the health care needs. That happens to be my philosophy.

I did learn something at the one visit that I did make that I think might merit some continued support, and I wanted to get your ideas about its value. At the trauma facility I visited, that was the Ryder Trauma Facility in Miami, they had a gentleman who was very impressive and whose name I have forgotten. Perhaps, I can get it for the record.

[The information follows:]

The primary researchers in the multidisciplinary team at Jackson Memorial Hospital are Dr. Jeffrey S. Augenstein, trauma surgeon and principal investigator, and Ms. Elana Perdeck, project manager. Mr. James Stratton is the accident investigator on the team, but his services are paid for from the Crashworthiness Research Budget under a separate contract, not under the grant to Jackson Memorial Hospital.

TRAUMA CENTER ACCIDENT INVESTIGATORS

Mr. Carr. His job at the trauma center dealt very little with the passenger of an automotive wreck and that person's care. His job was to go investigate the accident and document the accident. He is an accident investigator, and his job at the Ryder Trauma Center was to go out in the real world and essentially do an autopsy on the vehicle. While his colleagues were helping somebody, and perhaps having to do an autopsy on them, he was doing an autopsy on the vehicle.

But, the important thing was that because he was at the trauma center, he could also observe what kinds of injuries the victim had. He was smart enough to know what kind of photographs to take and to examine the vehicle to try to correlate what was going on during the crash.

He gave me a couple of briefings that were most impressive. He pointed out how the air bag in a particular Porsche had deployed but in a way that, apparently, the air bag itself caused some injuries. Incidentally, the person in this crash survived.

I think that those injuries were perhaps fewer than the injuries that the occupant would have had if there had been no air bag at all. That wasn't the issue.

But he indicated that he had been able to contact the manufacturer, and he did say that he had been in contact with NHTSA as well.

Now, it seems to me that if individuals like this provide valuable information and data and knowledge that NHTSA could benefit from, then it might be worthwhile for there to be a program or money available to trauma centers to put trained accident investigators in their facilities who would then have certain responsibilities to report real world vehicle accident data.

That is a very long statement of what I learned. And I wonder if you could comment on that.

Mr. SMOLKIN. There are a number of comments I would like to make on that.

First, NHTSA views its role reasonably broadly in preventing death and injury in motor vehicle crashes. First, we try to avoid the crash and we do a lot of work on crash avoidance. We do a lot of work on crashworthiness, but we also feel that it is part of our responsibility, through our emergency medical system outreach effort, to help mobilize the community to make sure that crash victims are taken to the correct trauma facilities and, on the way, that they get appropriate care before they reach the hospital.

We have gotten involved in trauma centers, in part, by choice and, in part, by direction. And we have learned a lot from our involvement, both in the sense of working with the accident investigators, but also in learning a lot more about the mechanics of injury. It is critical that we understand and make the linkage between—this person hit their head on that part of the car and this was the resulting injury. And you do get that by some of the linkages that we are now starting to form between our crash data and the biomechanical data and research that is going on at the trauma institutes.

I would like George Parker to go into a little of that, because I think this linkage is a critical linkage. And it does help us to organize ourselves in trying to decide, how do we better set our standards.

We never—previously, I think we gave inadequate attention to the medical side of exactly what was happening and how it related to the type of crash that somebody sustained.

George.

Mr. PARKER. This question really opens up a very broad area for us.

First of all, specifically, that person down there is under contract to the Agency, not through the grant program that went to the trauma center. What we decided is, from work we had done at other centers—specifically the Maryland Institute for Emergency Medical Service Systems—we decided that if you are going to have good information on injuries from crashes and the science of treatment of injuries, that we really ought to know what happened in a particular crash. So for the few sites we have with that type of a program, we have paid out of our research funds for an accident investigator to be on site to do exactly what you said, to go to the site.

Mr. CARR. Are you familiar with this gentleman?

Mr. PARKER. Yes.

Mr. CARR. What is his name?

Mr. PARKER. I don't remember his name, unfortunately.

Mr. CARR. Let's get it for the record. He is a very, very competent guy. I would hate to have to phone him up and say the Chairman forgot your name. But I was impressed with what he did.

Mr. PARKER. This type of study at a trauma center gives us detailed information from a limited sample of crashes where a person is taken to a trauma center. On the other hand, we want to know in great detail what happens in a case like this. What caused the injury, and maybe what can be done in the way of vehicle regulation or EMS services to better provide protection, and then treatment, for the victim?

But broader than that, I guess you would have to say that these are clinical studies, and they don't give us a really good statistical view of what is happening across the Nation for all types of severe crashes. That is what our National Accident Sampling System (NASS) does.

But by having these types of studies in the trauma centers, we are able to find out more about what is happening for particular types of injuries; and that one (Florida) is focusing on restrained occupants and, particularly, air-bag restrained occupants. But it gives us information in how we might change our larger-crash investigation program to collect better and more important data in the way of injuries, that occur in these types of crashes.

Even broader than that, we have a program that was mandated by the ISTEA to do a report on the effectiveness of safety belts and helmets. And in that particular project, we have funded seven States to link their police accident reports with the emergency medical service reports electronic databases, and with hospital electronic databases. So we are going from what we are learning from systems that we have set up in that particular trauma center and another one that has been since shut down, to our NASS system where we try to collect a lot more data; and we are broadening that out farther in the program under ISTEA, where we are getting all the crashes that happened in seven States from police accident reports to what happens in EMS services, to the hospital and the treatment at the hospital itself.

What is missing from the latter one is looking at the vehicle. In programs for crashworthiness, we want to know how the person was killed. NASS does this, but the larger one doesn't do that.

NHTSA CONTRACTS WITH TRAUMA CENTERS

Mr. **Carr**. How many people like this gentleman at the Ryder Trauma Center are there that you have under contract?

Mr. **Parker**. We have two others, one at Children's National Medical Center in D.C., and we have the New Jersey School of Medicine and Dentistry that has a program that was put in our appropriations by the Senate. And so we have those two other ones.

Mr. **Carr**. You are speaking about the individuals who are doing this research? You are not talking about financing a trauma center?

Mr. **Parker**. That is right. No, no, the other ones are at a much smaller scale. I think I can provide the exact numbers for the record, but I believe the Children's Hospital is around $150,000 a year, and I think the one at New Jersey is half a million.

[The information follows:]

Mr. James Stratton is the accident investigator. He is under separate contract to NHTSA ($90 thousand funded from the Crashworthiness Research Budget) and conducts the accident investigations for the Ryder Trauma Center crash study.

In addition, NHTSA has two other accident investigation teams associated with similar detailed hospital-based crash studies. One is under subcontract to Children's Hospital. That study of child injury mechanisms is funded with $193 thousand from the crashworthiness research budget. The other clinical accident investigation team is under subcontract to the New Jersey Medical College. That study of injury mechanisms in crashes involving significant structural intrusion is funded with the Congressionally specified budget of $500 thousand.

Separate from the agency's Highway Traffic Injury Studies under the Biomechanics Program, NHTSA also has 24 teams of crash investigators in the NASS system (Mr. Stratton had been one of the NASS investigators). They all perform similar detailed crash investigations on about 10,000 crashes each year. NHTSA also has several crash investigation teams under contract to do special investigations of unusual or noteworthy crashes that are brought to the agency's attention. These teams investigate about 50 such crashes each year.

Mr. **Carr**. And this is just a contract with an individual who has special expertise and competence and you have certified that?

Mr. **Parker**. Well, it is similar to the one in Florida in the sense that we have information from the trauma center itself, and the extent of injuries, the treatment of the injuries; but we also have put in both of those locations an investigator to go out and look at the vehicle. And we have paid for that separately out of separate R&D funds.

Mr. **Smolkin**. But the important thing not to miss here is the critical nature of the linkage. We need somebody who can tell us not just what happened in the crashes and what happened to the occupant in the crash, but we need the medical side to relate exactly that happened to the nature of the injury, so as we try to work toward our crash rules, we are fixing this.

Mr. **Carr**. This is not out of the NADS appropriation? Where do you get the money? Where is your money that pays these folks?

Mr. **Parker**. Most of that comes from the crashworthiness research budget, because it is providing information directly into the crashworthiness program.

Mr. **Carr**. Now, you say half a million dollars to New Jersey.

Mr. PARKER. That was an earmark from the Senate two years ago.

Mr. CARR. What is that for?

Mr. PARKER. That is for the same thing that is down in Florida.

Mr. CARR. But then you said that you are paying for the Florida investigator out of the——

Mr. PARKER. The crash investigator only. But the trauma information we are paying for from the earmarked money, in New Jersey.

Mr. CARR. Do you get half a million dollars worth of information from this New Jersey trauma project?

Mr. PARKER. When you combine this with the investigation of the crashes, that is in the ballpark of the cost for that type of information from Florida and also from Children's Medical Center; so, yes, I would say we get that amount of value for the money spent.

Mr. CARR. How much is going to Florida?

Mr. PARKER. Well, there was $2 million that was earmarked for the trauma center. About 10 percent of that goes to the information that we collect on injuries in crashes.

Mr. CARR. The information from Florida is worth $200,000?

Mr. PARKER. Well, that is two years' worth. That is actually $400,000; it is 10 percent of 2 million twice.

Mr. CARR. Do you propose to fund that in 1994? Give them $400,000 for information, plus pay for the individual accident investigator?

Mr. PARKER. I think that is less than $100,000 for that individual; and, no, that is not in our request for 1994.

Mr. CARR. You didn't request the $400,000?

Mr. PARKER. That is right. We requested half a million dollars for that type of study, but we have the Children's Hospital, the one in Florida, and the one in New Jersey.

We can also put it in another place. If we are interested in-if there is, for example, a difference in the type of crashes that might happen, not in an urban setting, but in a more rural or less urban setting, we can set one in another location.

Mr. CARR. I am not interested in setting up more. I am trying to figure out what is the essence of what you need from what we have. I don't want to offend anybody here needlessly, but you are not requesting $500,000 for New Jersey then?

Mr. PARKER. No, we are not.

Mr. CARR. But would you request the money to pay for the individual to do the vehicle-related work? Do you believe the clinical information is important? I am getting confused here.

Mr. PARKER. We think the clinical information is important, but we are not asking to expand. We are asking for half a million dollars for 1994, and we are not exactly sure what center that would go to, whether we would continue down in Florida, whether we would continue in New Jersey or continue at Children's Hospital.

The one thing that is nice about Children's Hospital is that it is hard to get information on how children are injured in crashes. So that is important to us. We have not decided how we are going to spend that half a million dollars.

Mr. CARR. Would it be fair for us not to appropriate it before you decide?

Mr. **Parker**. We want to spend it on clinical information. We haven't decided on the locations yet. Children's Hospital is probably one of the prime locations, because it is difficult to get information on injuries to children.

Mr. **Carr**. Do they also have adults there?

Mr. **Parker**. I don't believe they do.

Mr. **Smolkin**. But the location, if pressed, we could come up with the information. The need is critical for this kind of linkage information. What we are trying to do is evaluate which of the facilities might best be able to maximize the efficiency with which we are spending that money.

But there is no question as to the need for the linkage between the biomechanical information we get from the trauma centers——

Mr. **Carr**. Okay. If you didn't get the half million dollars, would you continue the contractual relationship with the individuals at these institutions?

Mr. **Parker**. No, we wouldn't.

Mr. **Carr**. I guess I am not really clear. What is it that I am missing? Why can't you have a contract with an individual at an institution like the Ryder facility to do this research, perhaps, with some overhead money? Why do you need the other 500,000?

Mr. **Parker**. Well, the other $500,000 goes for the trauma information that we collect from those centers also. But the $500,000 would pay, if we decide to go to more than Children's Hospital, for example, it would pay for the crash investigator at that particular site.

Currently, we are not paying for it out of that money because this was money that was earmarked for broader purposes, and we decided to make that work. You needed an accident investigator at those sites to be able to look at the vehicle to see what the source of the injury was.

Mr. **Carr**. Why not come to us with a program and tell us exactly what it will cost and what you propose to do? We will help with you a reprogramming.

Mr. **Parker**. I might add one other thing here, that another source of funding for this type of trauma center is the Centers for Disease Control (CDC). They have a grant research program. We have put the people in Florida in contact with CDC to try to help them get into that program also. So there is a possibility that they would get a grant from CDC. Certainly, they have the opportunity to compete for a grant.

And in that sense we get information for free, so to speak. It is not in our budget, but we get the same information.

Mr. **Carr**. Well, I would like to work with you to do something that has some common sense to it. I think this is an important area.

I am not sure that I am convinced about the dollar amounts. It seems to me that the value in this was this individual in the work and the skill he applied to his task. I don't know what information you get, beyond what information he gives you, from the center itself for four times as much. That, to me, doesn't compute.

I don't want to take too much time on this right now, but perhaps we could have another discussion. I want to help you out by doing something that makes sense. But, I just think there is a little leakage here that I am anxious to avoid if we can.

DRIVER EDUCATION WORKSHOP

Mr. CARR. Let me go on to a couple of other high-priority areas. I want to tell you that I am disappointed in the Agency with respect to the driver education area. Last year, I had made quite a point of indicating that we wanted some kind of a workshop. We wanted some product out of you on the driver education matter. You indicated that you would convene a workshop of national experts in the area of driver education, risk-taking and decision-making.

Did you hold that workshop?

Mr. BROWNLEE. Yes, sir, that workshop is being held this week as a matter of fact. Yesterday and today.

Mr. CARR. This week. How convenient.

Mr. BROWNLEE. We tried very hard, Mr. Chairman.

Mr. CARR. You need to have a meeting and say, our check list has a blank spot on it, and we had better get a meeting going. A whole year has gone by.

I am encouraged that you are going to hold a meeting, but I am discouraged that it took you a year to do it. I think driver education is critical, and I don't mean just for young drivers.

I have some questions I am going to ask for the record here because we are up against a real tough time line today. But I did want to raise the driver education issue orally to let all of you know it is an area that I am interested in. And, I am not interested in it just from the standpoint of the young driver.

I think perhaps one of the other areas that we might investigate would be driver education on a continuing basis. It seems to me that, not in any way to be offensive to older drivers, older drivers need to be re-educated about the limitations that their bodies are then imposing on them. I think one of the problems of older drivers—and I am talking about the people of considerably advanced age—is that their eyesight is failing, their reaction time is failing, their hearing is failing, their strength, their stamina and so many other things are in great change. Yet they all have these young 18-years-olds that are making them drive in ways that put themselves and others at risk.

So, it seems to me that we really ought to have an older driver program of some kind—a program that doesn't reduce people and rob them of their dignity, but is a fairly active program that begins to get people sensitive to the limitations that they have as drivers before they are perhaps psychologically willing to admit it.

So, driver education is very important.

Mr. Wolf asked a lot of questions on older drivers and so did Mr. Price. I am not going to go over those issues again, but I have some questions as well. So we will submit those for the record.

Also the others have gone over the young-driver-and-alcohol issue. I have some questions for the record on that issue as well.

UNDERAGE ALCOHOL FATALITY TRENDS

I just have to note, again with some disappointment, that last year, NHTSA testified that "Underage drinking and driving does not appear to be a growing problem based on available data." I assume that you have changed your attitude this year.

NTSB seems to take issue with that statement. NTSB reports that the recent increases in alcohol-related fatal crashes among young drivers under 21 indicates a need for new efforts to reduce alcohol-related crashes of drivers of this age group.

So this subcommittee would like to reconcile the two statements. Perhaps, you could provide a response in testimony right now, but certainly for the record.

Mr. Smolkin, do you want to say that the Agency has changed its attitude a little bit?

Mr. SMOLKIN. I think the Agency considers the underage drinking problem to be very serious, and we have addressed it in a number of ways. We have funded two underage drinking conferences, sponsored by NHTSA and the National Commission on Drunk Driving. We have developed legislation packages for the States to support zero tolerance laws.

At the community level——

Mr. CARR. Well, Mr. Smolkin, I don't mean to interrupt and I don't want to appear to be rude, but we are short on time, so I will drive ahead here.

My question is not whether you are doing anything. I understand you have activity in this area. The question is, the NTSB has said that this is an increasing problem; NHTSA last year said it was not increasing. So, the rate of change is the question.

Mr. BROWNLEE. The number of fatalities among that age group have gone down, over time, and I think that is probably the basis for the statement of last year. But we do believe the drinking-driving problem among young people needs attention and needs it promptly.

Mr. CARR. Is it increasing?

Mr. BROWNLEE. I am not aware of the statistics that indicate that it is.

Mr. SMOLKIN. It is not, if you look at the deaths of the young people in traffic crashes and the extent of the deaths which are associated with alcohol, it is not increasing.

Mr. WOLF. Would the gentleman yield.

Is it the number of accidents, or is it that the deaths are decreasing because the cars are safer and there are air bags and things like that? I am curious, and I yield back to the gentleman.

Mr. SMOLKIN. That is a similar good point, and there is no way for us to peel back the statistics and know, although in a proportional sense, we seem to be making progress with that age group. We don't see it as increasing; although it used to be very serious, we don't see it as increasing.

Mr. CARR. I hope you would address directly that point of the NTSB, because either they are wrong and you are right, or you are wrong and they are right. There is a conflict before this subcommittee, and I think it is important one.

The NTSB indicated that in the 1980s the United States had achieved a large reduction in the number of teenagers fatally injured in alcohol crashes; however, NTSB's caveat was that in the late 1980s, the trend leveled and then began to climb again.

So again we are going back to what is the data? What is the truth here?

Mr. SMOLKIN. We do have something that we will share with you right now, sir.

Mr. PARKER. If you look at alcohol involvement for drivers in fatal crashes, which gets at your point Mr. Wolf in 1982 there were 9,858 drivers between age 16 and 20 in fatal crashes. 31.1 percent had a blood alcohol content of .10 or greater. In 1991 it was 20.1 percent, so a much smaller proportion. So from 1982 to 1991, the change over that time was about 35 percent.

If you look at the change over time I would agree it looks like in the late 1980s it was levelling off, but I don't see it growing. We do have 1992 data available to us and we will look at that and see if there is a change.

Mr. CARR. We would like your response and what we are going to do is turn it around and ask NTSB where they got their data.

Do you have any reaction to the NTSB report?

Mr. SMOLKIN. We are in agreement with their basic recommendations.

Mr. CARR. Okay.

[The information follows:]

In 1988, 20.5 percent of the 10,411 15–20 year old drivers involved in fatal crashes had blood alcohol concentrations (BAC) of 0.10 or greater, compared to 30.8 percent of the 35,010 drivers 21–44 years old. In 1991, 19.8 percent of the 8,207 15–20 year old drivers had a BAC of 0.10 or greater, compared to 30.4 percent of the 30,344 drivers 21–44 years old. The estimates for the years 1989 and 1990 are comparable for drivers under age 21 (19.2 percent and 20.9 percent, respectively). These figures do not indicate increases in alcohol involvement in fatal crashes among drivers under age 21.

AIR BAG SAFETY PERCEPTIONS

Mr. CARR. I have a number of questions about air bags that I will submit for the record.

I want to say that I have long had a worry about the air bag as a device that leads to a false sense of security. I wonder if you could offer a few oral comments on that concern. Have you done any studies on it? People see that little symbol and think that is an excuse not to wear a seat belt.

Mr. SMOLKIN. There has been a lot of anecdotal discussion about risk compensation, not just with regard to air bags, but with regard to antilock and the way vehicle stability works.

I don't believe we have seen—it is somewhat early to tell with air bags—but we have not seen anything empirically based to show a risk compensation going on right now.

George, do you have anything to add.

Mr. PARKER. I only remember—maybe Mike remembers better than I—in North Carolina they did a survey or observational study and found that safety belt use in cars with air bags was relatively high. I don't think it was much different than non-air bag cars. Anybody remember that differently?

Mr. BROWN. That is correct.

Mr. CARR. It is clear, then, that an air bag is not a substitute for a seat belt. The two have to work together?

Mr. SMOLKIN. It is clear in the sense that we totally and absolutely agree with you. It is not clear in the sense that we are doing enough and we continue to press forward in trying to convince the public that they must wear their safety belt. This is a critical aspect of the phase-in of air bags. We have to continue to make the public aware of the need to wear safety belts with the air bag.

NHTSA ROLE IN IVHS PROGRAM

Mr. CARR. I would like to get clarification of your role in the IVHS area. Before you answer, I might give you a minute to think about it, and indicate that there is one program I am familiar with mainly because it is near my district. It is not in my district, but I speak to those officials a lot and they indicate Michigan State University and the University of Michigan are doing the academic research on the program that they are involved in. They had hoped that they would be able to come here with good scientific data for us this year, but the implementation was just a little out of phase and they couldn't get it together.

But, their preliminary reports were that traffic accidents in the IVHS area under review had declined about 30 percent. They didn't want to testify to that because they didn't have the scientific basis yet, but it would seem that IVHS is, at least, very encouraging even if their data is only half right. That would be 15 percent, which is a considerable savings, particularly regarding some accidents with really high property damage.

Now, you have had a minute to think about it. Give me, again, the nutshell of your responsibilities in the IVHS area and why you ask for IVHS money?

Mr. SMOLKIN. There are a number of things, Mr. Chairman, I will mention briefly and turn it over to Mr. Parker, who is our IVHS expert. We are involved in development of performance specifications for a variety of collision avoidance systems so everyone can be singing from the same song sheet on performance specs.

This is where we are taking the lead on the safety valuation of the departments' operational test so we are constantly monitoring some of the safety factors that you were just discussing.

We are also trying to develop cooperative agreements with industry to foster some of the early deployment of the systems that look very promising.

Mr. CARR. May I interrupt before you turn it over? I thought I heard you say you were more concerned about the vehicle portion of IVHS. Did I misunderstand you?

Mr. SMOLKIN. If that is what I said—we are concerned with the vehicle portion of IVHS, but we are also very concerned about the human factors portion of IVHS. You know, how are the signals that are coming into the driver evaluated by the driver? How do they react in an on-the-road situation? What are the implications of those things for safety.

So I am not sure——

TRAFFIC MANAGEMENT SAFETY CONCERNS

Mr. CARR. I would think that you would be also interested in the total traffic management approach, too.

Mr. PARKER. From a safety standpoint you mean.

Mr. CARR. Yes.

One of the pressures that you are going to have out there with these total traffic management systems is that the political pressures will be heavily weighted towards balancing the system from the standpoint of alleviating congestion. Someone has to be saying, now, wait a minute. You can do that to a point, but at some point you are beginning to compromise safety.

So, it would seem to me that you would have to know a little about what kinds of sensors they are going to put next to highways and which are more reliable, what kinds of information you are going to get off of those sensors and how that data is put together, how the system is maximized, and what compromises are made in the management of that system. That has nothing to do with drivers or human factors.

Mr. PARKER. That is true, Mr. Chairman. We are involved in that aspect. Yes, there has always been sort of a confusion almost everywhere on what our role is versus Federal Highways' role and Federal Highways' role can be pretty much easily defined as interest in applying advanced electronic and communications technology for mobility enhancement and congestion relief. That would involve just the things you mentioned, traffic management, and traveler information systems. Then for some roadway segments you would have automatic vehicle control.

Our program is interested in the same types of advanced electronics technology and communications systems, but from a collision avoidance standpoint. That technology is helping the driver to avoid collisions through warning the driver of risks that may be appearing to the vehicle, helping the driver perform collision avoidance actions and in some cases taking over control of the vehicle.

The overlap areas are the ones you mentioned, the fact that there could be some safety benefits and dis-benefits to the mobility enhancement or congestion relief parts of the program. So we are heavily involved in the safety evaluations of the demonstrations going on and that is part of the money we would like for IVHS to continue to allow us to continue to fund that.

HUMAN FACTORS COMPONENT OF IVHS

Mr. CARR. One issue that I would like you to look at was revealed in the Troy, Michigan, experience. Unfortunately, it is only an initial reaction that people have, but the driver gets used to the fixed time at a light. The driver goes through that light every day on the way to work and gets to know when that light is going to turn green before it turns green and starts to take their foot off the break, to edge forward.

When you are in an IVHS environment where there is real time analysis of traffic going on, that light will just not change in that same sequence. It might not change in the same time or same sequence and as a result you will get your nose out in front of somebody else's car real quick. The folks in Troy, Michigan found out when they first tested the system that this phenomenon was initially a problem. They engaged in a great deal of public relations and education. But, as drivers move from one part of the country to the other, using rented and other vehicles, it would seem that NHTSA would be in a position to recommend to FHWA that there would be a designation when a driver comes up on an intersection that it is a real time intersection, as opposed to a fixed timing signal; that there be something in that intersection that gives the driver a visual warning. They should know there is a different kind of a signal intelligence than there has been in the past there.

I think it is little things like that that NHTSA ought to pay a lot of attention to.

Mr. PARKER. Besides being part of the evaluations, that is why we are working very hard to develop the protocols that allow those things to come out of the evaluations. A countermeasure for what you mentioned is since the traffic management would include communications to the driver, just an alert to the driver that the signals on this route are no longer the typical timing, that they are on special timing.

DRIVER SIMULATOR FUNDING

Mr. CARR. How much is in your budget request this year for the national advanced driver simulator?

Mr. PARKER. $2 million.

Mr. CARR. Why do you need any?

Mr. PARKER. If we go to the construction contract at the end of fiscal year 1994, which is our fast-track schedule, then we will need that money to make those contract awards for the next phase.

Mr. CARR. Why do you need a fast-track schedule when the nonfederal participants haven't come up with their share of the project costs yet?

Mr. PARKER. We are optimistic that we will have the money available next year. Nothing much has been done to raise that money because we didn't have a cooperative agreement with Iowa until recently.

As you know, we tasked them to raise those funds. We will be assisting them with that, but, again, in conversations with the University of Iowa over the period of negotiations on the cooperative agreement they felt that they had no concern about raising the money, so we have to be optimistic that they will be available.

DRIVER SIMULATOR COOPERATIVE AGREEMENT

Mr. CARR. I understand that, like it or not, the driving simulator will be owned by the Federal Government, right?

Mr. PARKER. That is correct.

Mr. CARR. You are going to contract out with the University of Iowa to operate it?

Mr. PARKER. That is correct. Cooperative agreement to operate it.

Mr. CARR. And have you signed the cooperative agreement?

Mr. PARKER. Yes, we have.

Mr. CARR. What are the parameters of that cooperative agreement? How much are they paying you for the right to operate this thing?

Mr. PARKER. I don't believe they are, Mr. Chairman.

Mr. CARR. How much are you paying them to operate this thing?

Mr. **Parker**. We are not paying them to operate it, but if we use the simulator we will pay a fair market value for use of the simulator.

Mr. **Carr**. Why would you do that? You own it.

Mr. **Parker**. I know we had the same discussion last year. We pay for use of it because if we had the Federal employees operating it we would have to pay those Federal employees. If it was a private facility we would have to pay for that.

Mr. **Carr**. Do you get a discount?

Mr. **Parker**. You asked the same question last year and I don't think we do.

Mr. **Carr**. Your answers are not getting any better.

Mr. **Parker**. You will have to——

Mr. **Carr**. You should have stood in front of a mirror this morning. You knew what I was going to ask you.

Mr. **Parker**. In three years when it is operational, we can tell you if we get a discount on the operation of the simulator.

Mr. **Carr**. I understand that your cooperative agreement says that the University of Iowa is going to make the simulator available to us on a priority basis in accordance with the university's normal schedule of fees. What does that mean?

Mr. **Parker**. The normal schedule of fees would mean they would recover cost.

I mean, this is what is in the cooperative agreement. They would recover their costs for operation of the simulator when we are using it and there would also be the indirect costs applied to the simulator for operation of the simulator only, not for any other indirect costs.

DRIVER SIMULATOR INDIRECT COSTS

Mr. **Carr**. What would be included in the indirect costs?

Mr. **Parker**. I can't really tell you what that would be, but there is an OMB Circular A–21 that relates to that. It is because of problems with the research universities that that is fairly tightly controlled of what is allowable for indirect costs. It has to be something only allocated to the simulator, not broad university overhead costs. Only for the simulator.

UNIVERSITY OVERHEAD RATES FOR SIMULATOR

Mr. **Carr**. Which agency is the lead agency under that circular for University of Iowa? Do you know that?

Mr. **Parker**. I think the circular applies to any entity, Federal entity that has a contract, grant or cooperative agreement with the——

Mr. **Carr**. I know, but rather than have each individual agency negotiate the overhead with the university there is this provision, I think that is the one you mentioned, where one agency negotiates the overhead for all government agencies at that university. Do you know which agency that is?

Mr. **Parker**. No, I don't, Mr. Chairman.

Mr. **Carr**. Staff tells me the Department of Health and Human Services is the agency that negotiates overhead rates at the University of Iowa. Do you have any confidence in that agreement?

Mr. **Parker**. I am sure they would work with us in negotiating that overhead rate but——

Mr. **Carr**. But they negotiate an overhead rate for direct costs for all agencies. They don't do it for your agency individually.

Mr. **Parker**. Except in the cooperative agreement it can only be those indirect charges that relate to the simulator, not the whole university indirect costs. So they would have to, I am sure, work with with us in negotiating those because they would want our opinion on what costs are allocable to the simulator and not to the rest of the university.

GAO STUDY ON UNIVERSITIES AND OTHER RESEARCH INSTITUTIONS

Mr. **Carr**. We want to work this out. If you do some research on it and get back to the Committee, we would certainly appreciate it. Incidentally, everybody here knows that I am not a fan of this simulator, but as a generic proposition we have asked the General Accounting Office to look at all relationships between the Department of Transportation and the universities and other research institutions, including the Airway Sciences Program and other research programs.

Your agency will be contacted by GAO very shortly about that.

We are somewhat concerned as a generic matter that, through the device of overhead and other accounting tricks, scarce transportation funds are being siphoned off as a form of revenue-sharing with institutions, which is not the intent of this committee or, I think, of the Congress. So, you will be contacted, I am quite sure, about that by the GAO.

I have a number of other questions on the simulator. In fact, I have a lot of questions. You are lucky we are running out of time. You ought to breathe a sigh of relief.

BASIS FOR VEHICLE RECALLS

Mr. **Carr**. We have some questions on the Nissan van recall that Mr. Regula and Ms. Bentley asked you about. Let me ask you just to lay the foundation here. What is the basis of the recall? You have to have a safety defect or something like that, right?

Mr. **Boehly**. These recalls are just what you said, Mr. Carr, they are instances in which the agency or, in this instance, Nissan, the three times I mentioned before, had concluded on its own that a safety defect exists in these vehicles, and in accordance with the statute it has to implement a notification and remedy campaign in which all registered owners of vehicles are notified of the safety-related defect and for those vehicles which are eight years or newer, a cost free remedy is provided to those owners. They are usually headed under recall campaigns generically.

ROLE OF SAFETY STANDARDS IN RECALLS

Mr. **Carr**. I guess that would lead to the question, then, that presumably these are vehicles that have been designed to a standard that you folks have set forth. I am having a little difficulty understanding the relationship between the standards and the safety defects and the recalls.

Mr. BOEHLY. In this particular instance there is no standard regarding underhood heat or fire——

Mr. CARR. These are problems for which there is no standard; is that what a safety defect is?

Mr. BOEHLY. It can be, yes, but not necessarily in all instances. In this instance it was a situation where there was no standard which covered the performance. A safety defect is something that creates an unreasonable risk to motor vehicle safety. Whether that defect has to do with a safety standard or not does not preclude us from proceeding with a defect investigation. In this case, there was no safety standard covering this area of performance, as I said.

FUEL TANK STANDARDS

Mr. CARR. Okay. Well, that gets to the issue of the C/K pickup trucks. Apparently, there were standards with respect to fuel tanks.

Mr. BOEHLY. Yes, sir, there was a safety standard issued effective in the 1977 model year for frontal and rear impacts for pickup trucks and for the 1978 model year a standard was established for side impacts.

Mr. CARR. There are also standards for fuel tank integrity and all these other things.

Mr. BOEHLY. Yes.

Mr. CARR. We understand that fuel tanks are a vulnerable part of a motor vehicle. So, you have a lot of standards with respect to them.

Mr. BOEHLY. Those standards I mentioned were under the heading of fuel systems integrity. Fuel lines, the fuel tank itself is included—issues inside the vehicle which can relate to fuel systems integrity, yes, sir.

GM C/K PICKUP TRUCKS

Mr. CARR. So, there is a whole host of these standards. I understand that the C/K pickup trucks that have been given a lot of publicity lately met all those standards; is that not right?

Mr. BOEHLY. As best we can tell. We did not test one of those vehicles in our Compliance Test Program when they were new. The way safety standards work is that all new vehicles must be certified for compliance to the standards by the manufacturer and the agency, under its enforcement program, will test a selection of new vehicles each year to see if they do comply. We didn't run those tests on the CK pickups back in the 1973–87 in the side crash mode. We did run front and rear. We asked General Motors for the certification tests it ran to certify to compliance with that standard, and we have done tests at our test center. Our tests, are not done on new vehicles so they were not in rigorous compliance tests.

On the basis of review of data we have seen, we have no reason to believe those vehicles did not comply with that safety standard.

Mr. CARR. So, these vehicles were built in compliance with your standards so far as you know.

Mr. BOEHLY. Yes.

Mr. CARR. You are asking for more information to be sure that that is the case. Right?

Mr. **Boehly**. We have asked for a lot of information, reviewed a lot of information. There may be some other questions on that issue, but as I said, based on the information we have seen and we have looked at ourselves and testing we have done we have no reason to believe there is a compliance issue here.

Mr. **Carr**. Okay.

You are quoted in the *Wall Street Journal* on April 12 as saying that, "overall, there is no question that the trucks are safe."

Mr. **Boehly**. Yes.

Mr. **Carr**. And you say that there is no reason to suggest that they didn't meet the Federal safety standard.

Mr. **Boehly**. That is correct.

Mr. **Carr**. An accurate quote.

Mr. **Boehly**. Yes, sir.

Mr. **Carr**. You did say that in side crashes there is an increased risk. You did say that.

Mr. **Boehly**. That is correct.

NHTSA RECALL REQUEST LETTER

Mr. **Carr**. In your letter to General Motors, you didn't reference the standards.

Mr. **Boehly**. That is correct.

Mr. **Carr**. Is there a reason why?

Mr. **Boehly**. The conduct of defect investigations, Mr. Carr, at this point we are in this investigation. Our Office of Defects Investigation reached a point in this issue where it concluded that there were sufficient data available to indicate that an increased risk in these CK pickup trucks exists. We based that on a number of data that we would be more than happy to discuss with you.

On the basis of that data, a letter was written to General Motors requesting that it conduct a safety recall.

There are many other issues yet to resolve in a full defect investigation process. We are awaiting General Motors' response which will come to us Friday of this week and on the basis of that we will decide what our next step is in the process. The statute that we operate under calls for a number of other issues to be raised, a public meeting perhaps, more data to be presented, all those things are specified in the statute, but we have not reached that point yet in the investigation.

Mr. **Carr**. Well, looking at some historical data about increased risk by itself doesn't give you the authority to recall vehicles, does it?

Mr. **Boehly**. We have to make a determination about whether there is an increased risk and whether that risk is unreasonable.

As I said, we have not reached a determination by the agency yet as to whether or not that risk is unreasonable and whether a recall should be ordered. Our Office of Defects Investigation has looked at it and concluded that it would be appropriate to conduct a safety recall at this time and, yes, we have the authority under the National Traffic and Motor Vehicle Safety Act to make such an assessment.

Mr. CARR. Where is that authority?

Mr. BOEHLY. Section 152 of the Act.

Mr. CARR. 152 of the act. Will somebody get a copy of that for me, please?

SAFETY RISK ANALYSIS

So your testimony is that, notwithstanding having standards, notwithstanding manufacturers having met the standards, you can take a look back over your shoulder with some statistical analysis and decide that there is an increased risk and order a recall?

Mr. BOEHLY. I think there are a couple things to mention, Mr. Chairman.

In and of itself, I would not have been swayed by these statistical data. Other things had to be looked at within the data. As you mentioned before, I had found that the overall safety of the trucks is quite good. The question is was it better than Ford's; was it better than Ford and Dodge. When I use those terms, I mean Ford and Dodge pickup trucks which are similar types of vehicles.

Is there data to suggest the overall safety of those GM trucks is superior? The answer is, no, there is no data to suggest that they are any safer. Similarly in side impacts, did we see something to suggest that in side crashes those vehicles were safer in crashes in which a fire did not occur, fatal crashes in which a fire did not occur? We did not see anything there to suggest that the vehicles were safer in crashes without a fire.

We did see the increased risk in the fire crashes and we did not see an offsetting decreased risk in other crash characteristics.

Having looked at the accident data we wanted to do laboratory testing. We felt compelled to corroborate the information from our accident analysis with actual crash testing in a laboratory setting. We did those tests. We did them with instrumented test dummies using measurements on the head looking at the head accelerations, looking at the accelerations in the chest and making determinations about whether or not impacts that we conducted to see whether the increased risk of fuel leakage in GM trucks vis-a-vis Ford trucks, if there was this increased fuel leakage. Did we see something to suggest those crashes were survivable?

We used the dummy injury measures, called the head injury criterion which is a well-known measure. It is in our safety standards. Much has been published on the issue of the relationship between Head Injury Criteria and these crashes; and we used the Thoracic Trauma Index, which is also in our safety standards to measure the risk of a life-threatening injury in side crashes.

What we found in the crash tests is that they were survivable, based on the injury measures that were collected, but there was an increased risk of fuel leakage in the GM trucks. We did not use gasoline. We used a solvent which is standard scientific procedure to see if there was fuel leakage in the tests and we did see an increased risk in these tests that we conducted at our Vehicle Research Test Center in Ohio. They suggested there was this increased risk, although the injury measures indicated survivability was there.

The dummies indicated basically that had they been humans, there would have been survivability. So the accident data analysis, corroborated by and independent of the accident data which indicated there was an increased risk were the two pieces of data that led to the conclusion to write that letter to General Motors.

Mr. SMOLKIN. I certainly can appreciate your interest in this important issue, Mr. Chairman, and I appreciate the general nature in which you phrase your question so we can answer about how our process works. I do need to note that since we are in the middle of our ongoing investigation, Mr. Boehly has to be somewhat constrained about future actions and approaches he might take with respect to this particular issue.

BASIS FOR SAFETY STANDARDS

Mr. CARR. It seems that a vehicle meeting the standard 301 ought to be presumed to prevent unreasonable risk of fuel leakage in the event of a collision.

It seems to me regarding the standards that the agency seeks to have it both ways.

Mr. BOEHLY. Let me talk to that a bit, if I could. The statutory provisions in the Act regarding issuance of safety standards indicate the standards must be objective; i.e. be stated in objective terms, give the same results in any test whether in Ohio or California, at different test facilities, etc. They must be practicable. It is important to weigh the economic cost associated with it, and again, the safety benefits that would come forth.

That is a balancing act that necessarily is done, and historically has been done by the agency in establishing safety standards, looking at this range of statutory provisions which a safety standard must meet.

A defect, on the other hand, as defined in the Safety Act, is that in terms of the performance, or the design, or the manufacturing characteristics of the vehicle such that .4 creates an unreasonable risk. So a defect does not tie to the other issues of practicability and objectivity that the safety standard does. We looked at that issue carefully. It is a tough and complex issue. It was our view that the existence of a safety standard does not preclude the agency from proceeding along the lines of a defect investigation.

Mr. CARR. Well, I am going to examine your statutory authority on that. They are running out to get that now. We may have an honest disagreement there.

[The information follows:]

he shall furnish notification to the Secretary and to owners, purchasers, and dealers, in accordance with section 153, and he shall remedy the defect or failure to comply in accordance with section 154.

NOTIFICATION RESPECTING SECRETARY'S FINDING OF DEFECT OR FAILURE TO COMPLY

SEC. 152. [1412] (a) If through testing, inspection, investigation, or research carried out pursuant to this Act, or examination of communications under section 158(a)(1), or otherwise, the Secretary determines that any motor vehicle or item of replacement equipment—

(1) does not comply with an applicable Federal motor vehicle safety standard prescribed pursuant to section 103 of this Act; or

(2) contains a defect which relates to motor vehicle safety;

he shall immediately notify the manufacturer of such motor vehicle or item of replacement equipment of such determination, and shall publish notice of such determination in the Federal Register. The notification to the manufacturer shall include all information upon which the determination of the Secretary is based. Such notification (including such information) shall be available to any interested person, subject to section 158(a)(2)(B). The Secretary shall afford such manufacturer an opportunity to present data, views, and arguments to establish that there is no defect or failure to comply or that the alleged defect does not affect motor vehicle safety; and shall afford other interested persons an opportunity to present data, views, and arguments respecting the determination of the Secretary.

(b) If, after such presentations by the manufacturer and interested persons, the Secretary determines that such vehicle or item of replacement equipment does not comply with an applicable Federal motor vehicle safety standard, or contains a defect which relates to motor vehicle safety, the Secretary shall order the manufacturer (1) to furnish notification respecting such vehicle or item of replacement equipment to owners, purchasers, and dealers in accordance with section 153, and (2) to remedy such defect or failure to comply in accordance with section 154.

CONTENTS, TIME, AND FORM OF NOTICE

SEC. 153. [1413] (a) The notification required by section 151 or 152 respecting a defect in or failure to comply of a motor vehicle or item of replacement equipment shall contain, in addition to such other matters as the Secretary may prescribe by regulation—

(1) a clear description of such defect or failure to comply;

(2) an evaluation of the risk to motor vehicle safety reasonably related to such defect or failure to comply;

(3) a statement of the measures to be taken to obtain remedy of such defect or failure to comply;

(4) a statement that the manufacturer furnishing the notification will cause such defect or failure to comply to be remedied without charge pursuant to section 154;

Mr. CARR. I think that, frankly, you are charting new water here in a way that I find very, very alarming. It sounds to me like you are the teacher who says to the class tomorrow we are going to have a test, and you are going to be graded to an absolute standard. Then you take the test and a week later you get an F and you don't understand because when you got your paper back you got a 92. The teacher said, well, I am sorry, I changed my mind and I thought I would grade on a curve and you happen to have the lowest grade in the class. And that is an F.

It seems to me that is what you are doing. It seems to me that you have a standard. I can appreciate what you said about Nissan. This is an area where there was no standard. But, in the CK pickup truck instance, there is a standard. It was not as though General Motors concealed that these fuel tanks were on the outside.

Mr. BOEHLY. Right.

BRONCO II ROLLOVER SAFETY ANALYSIS

Mr. CARR. Everybody knew this. There were standards and tests. Assuming that General Motors met its responsibility in terms of its own tests and analysis, you say that these vehicles are safe. You have said that. You said that that statement is accurate. You have been quoted in the newspaper. You have said it here. These vehicles are safe. They met the standard. But, then you say we compared them with Ford trucks and Chrysler trucks and we found that there is a statistical deviation; that there is a higher risk as compared with these other trucks.

Now, I would point out to you that a few months ago, almost a year ago, we had the Bronco II situation in which case the Bronco II's rollover crashworthiness had the same statistical type variation from a similar vehicle from another manufacturer.

Yet, at that time you said that there didn't need to be any recall.

Mr. BOEHLY. If I could comment briefly, Mr. Carr. There was a study—about a year has gone by and I am not sure which one you refer to—done not by NHTSA but another organization which found the Bronco II had a much higher rate of roll over crashes than its peer vehicles.

In the analysis done by the agency, that was not the case. We did much the same as we are here. We looked at peer vehicles, multipurpose vehicles to make a determination or assessment in looking at the real world crash data, if the roll over rate per single vehicle crash was statistically different in the Bronco II than it was compared to other vehicles in that class.

The conclusion was that it was not—that after a rigorous statistical assessment, we didn't see data to suggest that a Bronco II had a higher risk than did its peer vehicles.

Mr. CARR. So your distinction in the two cases is that NHTSA didn't conduct the tests.

Mr. BOEHLY. Do testing of the Bronco II?

Mr. CARR. Yes.

Mr. BOEHLY. We didn't see anything in the accident data to suggest an increased risk. In this instance, we are looking at accident data analysis, as did others. I might mention that all of the independent analysis came up with pretty much the same conclusion that there was an increased fire risk in side crashes in these vehicles; General Motors trucks as compared to other ones. As I indicated, that, of itself was not sufficient.

We wanted to do independent crash testing of the vehicles to see if that would corroborate our findings of the accident data analysis.

Mr. CARR. The article that I am referring to is the *New York Times,* June 12, 1992 article. The article says that the agency closed the defect of the Bronco in 1990 after finding its rate of involvement in rollover accidents was not significantly higher than that of similar vehicles, including the Suzuki Samari, Jeep CJ–7 and Toyota 4 Runner.

But the rollover fatality rate was 3.78 per 10,000 vehicles for the Ford Bronco, compared to 1.91 for the Jeep CJ–7, and 1.48 for the Jeep Wrangler and 1.11 for the Suzuki Samari.

Mr. BOEHLY. If I am not mistaken, that was released by the Institute for Highway Safety, sir.

Mr. CARR. Which?

Mr. BOEHLY. The numbers you quote in the article in the media. Our data do not use FARS. We look at rollovers as really an event in which you can't use fatalities as an effective measure. Rollovers are those kinds of items that are crash avoidance issues and you need a database that allows you to look at the frequency of rollover, but not necessarily the outcome of a fatality.

In this case we rely on State data where you could get that information, looking at the rollover per single vehicle crash. We saw no statistical difference.

ROLLOVER CRASH ANALYSIS

Mr. CARR. I don't understand what you just said. Rollover crashes are what?

Mr. BOEHLY. There are two things you have to look for in a safety issue. One is an event occurring; and second, is there a casualty resulting from that event.

In looking at rollovers we wanted to see is the event occurring? Is there an increased rollover propensity of the Bronco II versus the Suzuki Samari, versus the Jeep? We were not concerned about the outcome, that a person died.

Mr. CARR. Why not?

Mr. BOEHLY. You are to be concerned about it, but the data bank is much smaller. You want to look at the event that could lead to the fatality, which rollovers can lead to.

C/K SIDE IMPACTS AND FIRES

Mr. CARR. Compare that to the side impact on C/K trucks.

Mr. BOEHLY. Here we're looking at fires. We wanted to see if fires were occurring, and if a C/K had the indication that fatalities were caused by fire at a higher level than they were in its peer vehicles.

Mr. CARR. Why did you look at the fire? Why don't you look at side impacts.

Mr. BOEHLY. We looked at side impacts, if it involved fires.

Mr. CARR. Why not all side impacts?

Mr. BOEHLY. We have looked at all side impacts.

Mr. CARR. You can talk about rollovers from the standpoint that roofs that don't cave in and those that do. It seems to me you are taking a single thread out of here.

Mr. BOEHLY. You certainly want to look at all available data to focus on the issue that you are concerned about.

In looking at those Bronco II data the events were quite small for fatalities. You want to see if in a crash avoidance matter, is the event occurring at a high level of frequency. That is why we relied on other databases to look at whether the event is occurring.

Mr. CARR. What was the event frequency in a rollover?

Mr. BOEHLY. I can't remember the precise numbers, sir.

Mr. CARR. What is the event frequency in a side impact crash on a C/K truck?

Mr. BOEHLY. In terms of fatalities?

Mr. CARR. How many times is there a side impact?

Mr. BOEHLY. How many side impacts were there in the C/K——

Mr. CARR. Yes.

Mr. BOEHLY. I don't have that number.

Mr. CARR. Isn't that relevant?

Mr. BOEHLY. It is. But we are looking at a consequence. A crash occurs. Given that the crash occurs, is there a result of fire which can result and cause an occupant fatality in these vehicles? That is the focus that we wanted to have in this particular investigation. It is a crash consequence phenomenon we were interested in.

RELEVANCE OF SAFETY STANDARDS

Mr. CARR. Getting back to my main point, I think that you are going into some very, very dangerous ground here. I hope the authorization committee looks into it because I think you know, and I think everybody at this table knows, how hard motor vehicle manufacturers in today's environment try to make safe automobiles. Now, there is a plaintiffs' bar out there that is not interested in letting the American public know that. The law puts you in a position and gives you the responsibility to set standards. Nobody is accusing you of not being tough. But, once the standard is set based on the best available knowledge and auto manufacturers meet that standard and document that, for you then to go back and look at some statistical variation and say that there is a safety-related defect for which there needs to be a recall, it seems to me, undermines the whole idea of standards.

You can go to the design studios whether they are in Tokyo or Munich or Detroit and they are looking at what you did with a great deal of trepidation. Unless your job is just to scare the daylights out of them—which I don't think it is—you have caused a number of people to believe that there really is no standard anymore. We can design to what they say the standard is and 10 years from now somebody somewhere, maybe with or maybe without the help of NHTSA, is going to go back and find a statistical deviation between peer group automobiles and we are in the tank financially for it.

See what I mean?

Mr. Boehly. Sure, as I said, it is a very tough issue for us and one we look at very carefully, Mr. Carr. We hear what you are saying.

STANDARDS CREDIBILITY

Mr. Carr. You are undermining the standards. Did you talk about that?

Mr. Boehly. Yes, sir, in great detail. We talked about the effects of an investigation like this and the concern of what it would have on the rule-making process.

FEDERAL EMPLOYEE LIABILITY

Mr. Carr. Perhaps, we just ought to turn the design of automobiles over to NHTSA.

Is NHTSA and its senior officials liable for claims against the government if GM met your standard and produced a design later to be found by you to be defective? Isn't NHTSA culpable?

Mr. Smolkin. The minimum safety standards that are met under compliance standards are certainly a guide towards what we believe safety is. They can't anticipate every design that might come up and how that design might function on the road.

Our reading of the act was that the Congress intended that we not use passing the standard as an absolute bar to us in investigating if on-the-road performance of a particular design appeared to be disproportionately related to fatalities.

But you raise a very difficult question and we in the agency are wrestling with that same question.

Mr. Carr. Did you ask your legal counsel about this?

Mr. Boehly. Yes, sir.

Mr. Smolkin. Our legal counsel does not believe that the existence of package on a standard is an absolute bar to us for going after a manufacturer who may have failed to adequately protect the public.

Mr. Carr. Does he believe it is a bar to being a defendant in a lawsuit?

Mr. Smolkin. I don't believe that issue was raised; it wasn't with me.

Mr. Carr. I would encourage your counsel to go talk to the FAA. The FAA routinely gets joined in billions of dollars of lawsuits every year. Some of the lawsuits are for air traffic control operational matters, but also the FAA gets joined because, for example, it certified Beech Baron in 1946 that lost its tail because the person didn't maintain it properly. How many lawsuits are there against NHTSA currently?

Mr. Smolkin. Do you know how many suits?

Mr. Womack. Zero. None.

Mr. Carr. You are very fortunate, but I think this position you have taken opens the door. I think you could be sued anyway.

Mr. Smolkin. I am not familiar with the FAA practices, but we are not certificating. I don't want to leave the impression that we certificate it.

Mr. Carr. I understand. I understand that the situation is just a little bit different, but the FAA has design standards, too.

I have a number of questions on this topic that I am going to ask for the record. I would also ask that you give the answers to these questions your highest priority. I know that you have to answer them all and you do a good job of getting them back to us in a timely fashion. But I would ask, because of the timeliness of these issues and because of what is going on right now, that the answers to these questions be delivered both to the subcommittee and my personal office in the shortest possible time and well in advance of the answers to the other questions.

ON-BOARD VAPOR RECOVERY

Let's move on to on-board vapor recovery. Here you get to be a hero.

The EPA announced earlier this month that it would not appeal a Federal appeals court ruling that required new cars to be equipped with cannisters to capture fumes from gasoline refuelant. As I understand it, NHTSA historically had a position that vapor recovery systems potentially pose significant safety problems.

Is that still your position?

Mr. SMOLKIN. We do believe that that is difficult to measure but a clear additional safety risk as a result of on-board systems.

Mr. CARR. Have you had a chance to brief the Secretary of Transportation on the safety issues?

Mr. SMOLKIN. Yes, we have, sir.

Mr. CARR. Can you tell me when you did that? Was that before or after the government decided it would not join the appeal of that ruling?

Mr. SMOLKIN. That was before, if I remember.

Mr. WOMACK. Yes.

GOVERNMENT APPEAL

Mr. CARR. It was before. That is disheartening to this Member of Congress. It would seem to me that the government ought to be appealing. I know this is probably above your pay grade, but the fact of the matter is that it is disheartening to me. The Secretary has a lot on his plate. We are all sympathetic to the problems he is grappling with all at once with no help other than the career civil servants. But, nonetheless, it is disturbing for me to find out that you have apprised him of the safety concern and he decided for whatever reason not to appeal.

Mr. SMOLKIN. The Justice Department, sir, of course did the final Federal decisionmaking on this and the absence of appeal does not indicate we didn't disagree with the result of the court. It was based on some legal reasoning as well.

Mr. CARR. Well, you are very proper in saying that I have not characterized the process accurately enough.

Do you think you can speak for the Secretary enough to say that he registered a concern with the Justice Department on this point?

Mr. SMOLKIN. I am not really a party to the——

Mr. CARR. Do you know if the Secretary had a position on this issue?

Mr. SMOLKIN. I believe the Secretary agreed with NHTSA, that there was an additional safety concern. I believe the Secretary also had to weigh the advice he got on the legal advisability of going forward with an appeal in the current context.

EPA VIEWS ON FUEL EFFICIENCY

Mr. CARR. Well, I don't want to be unfair to the Secretary. He just has an enormous job. I hope I will be able to talk with him about that later on.

Similarly, NHTSA has been very good about pointing out the design trade-offs in an automobile between fuel efficiency and safety. According to press reports, EPA Administrator Carol Browner met in Detroit with the "big three" car manufacturers and she indicated that there might be proposals besides CAFE that could be considered to require 40 miles per gallon fuel efficiency for passenger cars.

Do you know what proposals or alternatives she was referring to? What kind of a liaison have you established with the new EPA administrator?

Mr. SMOLKIN. I am unaware of any specific proposals they are putting forward that would establish that range of fuel economy. The approach the department is taking is that we believe that there should be discussions on an interagency basis on the entire issue of CAFE and we should reach out to those involved, including the manufacturers to get a full assessment of the implications of any decision we make. But I am unaware of any decisions that have been reached in that regard.

Mr. CARR. Are you unaware of any proposals she has made?

Mr. SMOLKIN. That is correct. I am unaware.

NEED FOR BALANCE

Mr. CARR. Well, I would just encourage your good work here. Unfortunately, the Congress of the United States is the big problem here. It is a procedural matter. It is not because people are mean. It is just that on the day we consider clean air legislation that is the only important thing and there are no trade-offs. The day we consider energy conservation legislation that is the only important thing and there are no trade-offs. The day we consider safety standards that is the only important thing and there are no trade-offs except you well know that in the real world you get into a design studio and they all trade off against one another.

The Congress has imposed laws which have not entirely been helpful. In your agency, you should get a pat on the back, I think, for raising some of these trade-off issues in a most productive way.

I have a number of questions on CAFE that I will ask for the record.

ELECTRIC VEHICLE SAFETY STANDARDS

We are now getting to a point where we are discussing building electric vehicles. This is a question I asked last year.

Apparently, the automobile manufacturers have slowed down a little bit. Nonetheless, the California standard is still out there and more electric vehicles are going to have to be made.

Electric vehicles impose certain additional or certain types of safety standards. One of the criticisms of the agency, although this is not a harsh criticism, is that one of the hurdles towards the manufacturing of the electric vehicle is not only the technological challenges of electric vehicles, but also the design standards. You almost have to be on the leading edge of what those who are in the industry are doing in this area so that you can appropriately apply safety standards to electric vehicles.

How much have you allocated for the fiscal year 1993 effort, the current year, and what are you asking for electric vehicle research in fiscal year 1994?

Mr. SMOLKIN. There are two things before we get individual answers. We are approaching this from two points of view. Our first responsibility is to get out of the way in terms of rulemaking, but make sure we don't inadvertently prohibit new technology from coming on line because our rules are written in a particular way.

Mr. Felrice can tell you a little about what we have been doing in that regard. We are also on a longer term basis trying to undertake more in-depth research as to some of the issues that might arise as a result of shock levels—battery explosion, hazardous materials issues—Mr. Parker can talk briefly about that.

Mr. FELRICE. With regard to rulemaking, Mr. Chairman, we agree with your philosophy. We want to get out of the way and not impede the production of these vehicles.

And we started rulemaking in 1991 with a request for comments and asked for comments on 20 specific areas. And we asked whether the agency should initiate rulemaking in those areas. As a result of those comments, late last year we terminated rulemaking with regard to unique standards for electric vehicles. It seemed either the technologies were not developed enough to know what the hazards might be or that manufacturers were themselves voluntarily complying with standards that we might end up issuing. So, with regard to that, we terminated rulemaking.

We have some rulemaking under way to change some of our existing standards that did not anticipate electric vehicles. They should be completed later this year.

With regard to money, there is $200,000 in the fiscal year 1993 money to do the kinds of research that Mr. Smolkin mentioned, and we are asking for another $50,000 in fiscal year 1994.

Mr. PARKER. Mr. Chairman, we are in the R&D side of the agency embarking on a longer-range program to look at the safety concerns of electric vehicles, shock levels in the event of a crash, battery explosion and exposure limits to hazardous chemicals. And we hope over the long term to develop a crash procedure to look for those types of problems in crashes of electric vehicles. We expect to put no more than $50 thousand to that effort in 1994.

SCHOOL BUS EMERGENCY EXITS

Mr. CARR. The rest of the questions on electric vehicles I will ask for the record.

I have a number of questions on the ISTEA mandates.

I do have a question about school bus safety, and we have a number of additional questions that I will ask for the record. But the one issue that I guess I come back to has to do with that aspect of school bus accidents where the school bus rolls over on its side.

My hope was that NHTSA would be promulgating some kind of a standard for a roof hatch escape exit. I think you know the problem. I don't need to go over it. Where are we on that?

Mr. FELRICE. We did issue a final rule that requires additional exits in school buses as compared to what currently exists today.

The number of emergency exits is based on the seating capacity of the bus. We said that if the current requirements for either a rear door or rear side emergency door do not sufficiently meet the new requirements, then the next exit must be another door. If you need additional space after that, then the second additional exit under this rule must be a roof hatch. And anything after that, it is up to the manufacturer as to what they do.

We tried to walk a careful line here between having the Federal Government provide guidance and leadership for this area versus trampling on State and local rights as to what their particular problems are.

In most school bus crashes the school bus does not roll over. Our data shows that in 99.5 percent of all school bus crashes no rollover is involved. That led us to believe that the exit that would be most useful would be another door. But we recognize that sometimes buses do roll over, and that led us to the second exit requirement to be a roof hatch. But because most school buses in this country are fairly large and carry over 62 passengers, under this new rule any bus over 62 passengers must have an extra door and a roof hatch.

I think the majority of school buses will have roof hatches anyway, and there is nothing to preclude any State or local school district from ordering school buses with roof hatches if they want, if they think that is a big part of their problem.

Mr. CARR. Well, I thank you for that explanation.

I think we probably disagree a little bit. Roof hatches are not very expensive. I would agree with you that rollover accidents involving school buses that operate in cities are probably negligible. But, a lot of school buses operate in rural areas where you have culverts and unimproved shoulders and a whole host of other things, not to mention mountainous regions. This is intuitive, but I will bet that most of your rollover accidents occur in the more rural environment.

And rollover is not really a good characterization either, is it? The school buses just tip over. They don't roll. The fact is that it is a bus that gets in an accident that ends up significantly on its side so that small children inside can't get out the windows on the side that is up, can't get out the door on the side that is down. Depending on which side the hinge is on, the back door may be hard to lift. So, the roof hatch, it seems to me, would be more important.

Did you happen to look at that aspect, the rural versus city environment?

Mr. FELRICE. Well, we tried to, as much as our accident data allowed. And, certainly, the comments in the rulemaking address that issue.

And I agree with you that rolls or tips are going to be more frequent in mountainous terrains. But to issue a national rule to say that all school buses must have a roof exit, which would cost about $200, we didn't think that was mandated.

The people that object to the proposed rules are not the regulated parties, which usually happens in the other rulemakings, but it is the school districts themselves, some of whom have never had any kind of accident at all and say why should we have to spend the $200 to $700 per bus?

Mr. CARR. Surely, you reject that logic. Why should any safe driver ever have to pay for all of the safety improvements that go into a car?

Mr. FELRICE. But it is somewhat a balancing act. We have to address those comments. And, thankfully, school bus crashes aren't very frequent, so it was balancing the costs and benefits.

Mr. CARR. We have some additional questions on highway traffic safety grants that we will ask for the record, pertaining to Section 402, Section 410 and Section 153 grants.

Mr. Durbin.

RURAL VS. URBAN DEATH RATE

Mr. DURBIN. Thank you, Mr. Chairman.

I am sorry to come late to the hearing. I understand my colleague, Mr. Wolf, has already addressed one area that I won't visit again regarding the National Transportation Safety Board's recommendation on teenagers and reducing accidents. I will read over that testimony, but I do want to ask about another area.

FHWA statistics on fatalities by highway systems show that deaths per 100 million traffic miles traveled are higher on rural highways than urban. The fatality rate for rural highways is 2.8 compared to 1.38 for urban. The fatality rate on rural collectors was 3.2 compared to 1.11 for urban collectors. What factors account for the higher fatality rates on rural highways?

Mr. PARKER. I think there are a couple of things you can point to. One is the greater speed that probably is traveled on some of the rural highways. Another factor would be the availability of emergency medical care in those rural areas. The third one is probably—I am—I don't have statistics at hand now, but I think probably alcohol is involved in more of those rural crashes than might be in some of the urban crashes.

EMS RESPONSES

Mr. DURBIN. Those are good points, particularly the second one regarding the availability of trauma care and the immediate response from ambulances. That is becoming an increasingly difficult challenge in rural America with sparsely populated areas and the reduced tax base. I know that firsthand from where I live. The closing of rural hospitals has complicated it more. I think that is an excellent observation.

Is the same thing true for serious injuries between rural and urban highways statistics?

AUTOMATIC CRASH NOTIFICATION

Mr. PARKER. Again, I don't have the numbers with me, but I would suspect that that would be the key.

You might be interested in the IVHS area. We are proposing to do work starting this year and continuing into 1994 to develop a system of sort of automatic notification of EMS providers in the event of a serious crash. Because, with the electronics that are on board vehicles now and if you have an air bag—if the air bag deploys, you would get an automatic signal from that crash location to some sort of central emergency medical service provider, and they would be able to identify the closest care provider and send it to that crash. So we are going to do some feasibility work.

Right now, we know that 25 percent of serious crashes occur in rural areas, but 30 percent of fatalities. That is a number off the top of my head. We think that one of the reasons is, again, the emergency medical care. We plan, if it is feasible, to do a demonstration of that particular IVHS technology to see if it will provide a quicker response to the crash scene.

Mr. DURBIN. What is the incident of air bag detonation where there is no serious crash involved?

Mr. PARKER. They are designed to deploy in situations such as, crashes and change in velocity that is equivalent to an eight to sixteen mile per hour crash into a barrier. There could be some crashes that you wouldn't have a serious injury. That is part of the feasibility of what type of signal would you need. What type of sensor would you need on the vehicle to indicate it was a serious crash?

And maybe it is a combination of air bags plus deceleration of the vehicle plus safety belt use. And if you knew all those things, it might send a signal in that case.

Mr. SMOLKIN. We have taken a look at this issue that is of concern to you because it is of concern to us. And we have issued a study on that.

Perhaps Mr. Brownlee would like to fill us in.

Mr. BROWNLEE. I think it is on point to the question of emergency care in rural areas, and we have been looking at this because of the statistics that you cite in mortality studies in rural areas. We conducted a rural mortality study to assess how many of the deaths could have been prevented by better EMS care and better care in the emergency rooms.

The study was recently conducted in Montana and indicated that the incidence of preventable mortality is rather high, as one would expect. That is true with respect to Montana, where we did the study. We need to repeat the study in a couple of other areas. We are in the process of trying to get those States selected and the additional studies off the ground.

The other thing we are doing, which I think is important from a rural traffic enforcement standpoint, is to try to get a better response from the police in rural areas, to do more traffic enforcement, reduce drunk driving and increase the use of safety belts. We have several projects that have gone on in a number of States with the sheriffs.

Frequently, in rural areas—particularly outside the towns—the sheriffs are the only enforcement presence there and they can do substantial work to improve the enforcement in those areas. There are good data out of South Carolina indicating substantial reductions in deaths with involvement by the rural sheriffs, and police chiefs as well.

Mr. DURBIN. Last year, in a campaign where I put 60,000 miles on a car in rural areas on two different occasions we came upon accidents. Because we had a car phone we were able to communicate that quickly. I think that would be a phenomenon that would help the situation. Is there any evidence that this is becoming an important element?

Mr. BROWNLEE. I don't have any statistics to support it, but I am sure your observation is correct.

I think it is also important in rural areas to understand that the kind of care that is available, who first comes onto an accident scene, is very important as well. We need to do some better training of police and ourselves as well on what to do when we arrive at the scene of an accident. We are trying to make motions in that direction in our program.

FARM EQUIPMENT ACCIDENTS

Mr. DURBIN. The most dangerous occupation in America is not construction or mining but farming. There were more serious accidents and fatalities involved in that occupation than any other in our country. Are you keeping statistics or have you done any work relative to vehicle accidents involving farm equipment?

Mr. SMOLKIN. The statistics we keep relate to crashes on public highways. But I don't think we have disaggregated farm equipment from other types of heavy trucks. Is that correct.

Mr. PARKER. No, I don't think so. But that is a good question, and I will check that when I go back to the office. And I will provide for the record if there is any information available.

[The information follows:]

The following table presented historical information on farm equipment, excluding trucks, involved in fatal crashes on the public trafficway, from 1981 through 1991. It should be noted that this information is not a good source for estimating total accidents involving farm equipment since only those crashes occurring on the public trafficway are covered by our data collection efforts.

Farm Equipment Excluding Trucks Involved in Fatal Crashes on the Trafficway

1981 - 1991

Year	Farm Equipment Involved in Fatal Crash	Occupant Fatalities of Farm Equipment	Total Fatalities in Crash
1981	168	112	177
1982	140	94	150
1983	146	92	151
1984	190	119	197
1985	136	84	137
1986	142	77	146
1987	137	85	144
1988	124	76	129
1989	125	71	126
1990	109	62	111
1991	114	67	120

Mr. **Durbin**. Naturally, there is a warning triangle on most farm vehicles now. Most of the farmers I talk to have some pretty scary stories about people who get impatient with them and their equipment. I have been one of those people. I am sure that we all have from time to time. But they do some pretty dangerous things and jeopardize lives in the process.

Is there any evidence that deficiencies in highway design or conditions in rural areas add to the serious injury and fatality rate?

Mr. **Smolkin**. That is probably best answered by our associates in the Federal Highway Administration. We don't do in-depth studies of road design as such and the relationship to crashes.

Mr. **Durbin**. Okay. Thank you very much.

I appreciate it, Mr. Chairman.

"VINCE AND LARRY" ADS

Mr. **Carr**. I would like to turn now to questions with regard to the Vince and Larry crash dummies. Of course, they have been used in a long-running series of ads and became involved in a conflict of interest after being licensed to Tyco Toys, where the networks refused to accept a series of ads with Vince and Larry because the ads would effectively promote licensed products.

The National Ad Council, which developed the crash dummy ads as well as others such as Smokey Bear, reportedly warned NHTSA that commercial licensing would compromise the campaign. One critic of NHTSA's actions was quoted as saying that you couldn't do better at undermining an ad council message if you dressed up like Smokey the Bear, torched Yellowstone and mauled the fleeing tourists.

How much has NHTSA received and how much do you expect to receive as a result of the licensing agreement with Tyco Toys?

Mr. **Smolkin**. The licensing agreement with Tyco Toys was not intended primarily to generate licensing fees. We are not in that business. The licensing agreement was one-Tyco approached us and said, we are putting out those dummies. Would you like to try to cooperate with us in some way?

It boiled down to an issue of whether they could make a dummy that looked exactly like our dummy that would require a licensing agreement, or whether they were going to modify their dummy so it didn't conflict with our licensing agreement. A decision was made at that time, several years ago, to grant the licensing agreement in return for which Tyco was supposed to stress and did stress a belt message to children. It was a way of trying to sell the belt message early with children.

We have since terminated any agreement we have with Tyco Toys. There is no question that, on a network basis, we took a hit. ABC, NBC and CBS decided not to run Vince and Larry ads.

It is important to note, however, that there is a lot of television that isn't network. The value of 1992 overall TV coverage, including spot (local) markets, which is really the bread and butter of a lot of this, was about $4.1 million through the five-month period, September, 1992, through January, 1993. While we have been hurt somewhat by this whole Tyco controversy, it is important to note that Vince and Larry continue to be the preeminent TV personalities selling our message about safety belts.

Mr. CARR. So, the licensing agreement has been dropped. You have terminated it. It is over.

Mr. SMOLKIN. Yes. It was over in August of 1992.

Mr. CARR. All right. You are not going to do that again, I assume.

Mr. SMOLKIN. That is correct.

Mr. CARR. Did you ever estimate the value of free public service advertising that you lost? Did that number ever get computed?

Mr. BROWNLEE. I have some data off the top of my head which we ought to confirm for you, but, if I remember correctly, that the value of the Vince and Larry program in 1991 was nearly $90 million. And I think the expectations in total from all media outlets for 1992 will be, obviously, something less than that.

Mr. CARR. Well, are Vince and Larry back on the air, then?

Mr. SMOLKIN. They are. They have always been on the air. The question is whether they will be carried by the networks themselves in the network feeds. But the spot (local) markets have remained strong throughout and continue to remain strong.

Mr. CARR. Are the networks using them again?

Mr. SMOLKIN. I think Fox and CNN are.

Mr. BROWNLEE. The big three are not. Others did not participate in the boycott at all, and Fox was included there.

Mr. CARR. Now, somebody goes around the country dressed up as Vince and Larry, right?

Mr. SMOLKIN. Well, we let people utilize the suits, and we ourselves have our people show up at various things dressed up like Vince and Larry. There is no one Vince-and-Larry-type character.

Mr. CARR. I understand there are many Vinces and Larrys, but are they under your control? Are they obligated to give the safety message?

Mr. SMOLKIN. We control the trademark that looks exactly like Vince and Larry or if it purports to be Vince and Larry. And the purpose of our control is to make sure that the message is appropriate to the use of Vince and Larry.

Mr. CARR. How does that work? Somebody wants to do Vince and Larry at community outings in Southern California. What do they do? Do they call you and say send me a suit, or what?

Mr. DERBY. They work through the regional offices to get a suit because the suits are made at one site. And I think Vince and Larry can't speak. They can't go out and sell Smokey the Bear scripts. They can only do Vince and Larry promotions that go along with the suit.

Mr. CARR. Do you exercise any screening of people who would seek to represent Vince and Larry?

Mr. DERBY. We are pretty careful. I believe that is all done through our regional officers. That is how they place the orders. And they are buying the suits primarily with the 402 funding. That kind of a screen is in place. And most of the time there are regional personnel at the major events where they are performing.

Mr. CARR. Are there rules and guidelines pertaining to how they are supposed to behave?

The worst thing that could happen is that Vince and Larry appear at a children's event, and they take a break behind the trailer and have a beer. A little kid comes up, and there is Vince having a beer. You don't want that. Are there standards?

I had a conversation one day with some personnel from the Walt Disney Corporation. The conversation had to do with my passing along a local constituent request to Disney that Mickey and Minnie come to a children's event in my district. I had to go all the way to Michael Eisner to get that done because Disney does not let their characters out without the utmost of control, fearing that very thing, where there would be some news account where Mickey and Minnie are busted for drugs at an airport or whatever. You can't do that. So, you exercise some supervision?

Mr. DERBY. I know when they participate at belt promotions, they don't talk. They can just wave.

Mr. CARR. Have you ever been able to measure the effect of Vince and Larry? Have you done any surveys? They are certainly entertaining. They are certainly amusing. Is the real message getting through?

Mr. BROWNLEE. We have talked with the Advertising Council about doing some awareness studies through them or otherwise, to see how recognizable these figures and the associated traffic safety messages are. But the best measure of the Vince and Larry and the other Ad Council campaigns that are run is the amount of airtime that is played.

And in 1991, again, Vince and Larry was number one, and the drunk driving campaign was number three. So the Ad Council is very pleased with it. And those are numbers that we are pleased with as well.

NAFTA IMPACT ON STANDARDS

Mr. CARR. I have a number of questions that I would like to ask you on the NCAP program. I actually wish we had the time to do it now rather than for the record, but we are running a little longer than I thought we would be.

Let me get a brief comment from you about NAFTA. Some observers—and this is not Bob Carr as an observer, but I have heard it—say that the NAFTA agreement, if approved, will force a rollback of essential U.S. highway safety standards by requiring the U.S. and Canada and Mexico to harmonize these safety standards. Could you comment on that?

Mr. SMOLKIN. I believe that is not the case, sir. NAFTA does call for the establishment of what is called the Automotive Standards Council. And the purpose of the Council is to facilitate attainment of compatibility among the standards. But any changes in standards we have made quite clear would be at the discretion of the governments involved, in this case, the United States.

After—there are some minor changes, not with safety standards, but, for example, after a 10-year transition period Mexican-value-added would be counted as domestic content and things like that. But the safety standards themselves-we have taken the position we will work as we do with the Europeans and other nations at WP29 toward harmonization, but we are not abrogating our responsibilities to set safety standards.

DAYTIME RUNNING LIGHTS

Mr. CARR. The next question has to do with some testimony we had when our public witnesses were here. This has to do with daytime running lights.

We understand that Finland and Sweden have long required drivers to turn on their low-beam headlights in the daytime. We are cognizant that the hours of daylight in Finland and Sweden are a lot different than they are here, and that the hours of dusk and low-light situations as opposed to darkness are different than they are here. We are all aware of that. Have you examined this? Daytime running lights are more a technique than a technology. And do they have any safety payoffs?

Mr. FELRICE. It is unclear, Mr. Chairman. We have looked at the studies that have been done in European countries. Daytime running lights are probably most effective during twilight hours, and, as you mention, the twilight hours are longer there so one would expect more benefits. We think there is no reliable study that has demonstrated that operating with lights on during the daylight in the U.S. would provide safety benefits. There is nothing.

Mr. CARR. GM has petitioned for a standard for optional installation. What about that petition? Have you acted on that?

Mr. FELRICE. Yes, we completed that rulemaking in mid-January of this year.

Mr. CARR. And what did you conclude?

Mr. FELRICE. Well, the purpose of the rulemaking, it is geared to be an optional standard. But, basically, we did this rulemaking at General Motors' request because they wanted to market daytime running lights in the U.S., but they felt that there were State laws that inadvertently prohibited these lights. No State laws actually said that you couldn't have them, but there were other laws regarding frontal lighting that would have prohibited it.

Rather than dealing with the 50 States, General Motors asked us to step in. We would like to see DRLs in this country, so we went through the rulemaking. The final rule was issued in January and became effective mid-February. So now, because we preempt State laws, manufacturers can market DRLs in this country. And we tried to provide harmonization as much as we could with the Canadian standard that has been in effect for three years. But—the standards are not identical, although there is a margin of overlap.

Mr. CARR. This brings to mind another question I have always been somewhat taken by the European habit of driving in the city with parking lights or running lights on instead of headlights. Have you ever asked them why they do that and have you ever studied that?

Mr. FELRICE. I don't know. I know that is prohibited in just about every State in the U.S. because the feeling is that car drivers won't put on the full-beam headlamp when they have too in order to see and to be seen at greater distances. I don't know if we have ever studied the European requirement.

Mr. SMOLKIN. No, I don't believe we have, sir.

Mr. CARR. They are just doing it out of habit and not out of any belief that that is safer.

Mr. SMOLKIN. Somewhat akin to yellow lights because they were viewed as safer in some sense in France for some time.

Mr. PARKER. I can comment on that. That is being phased out. Yellow lights are being banned.

DRIVER ANTICIPATION

Mr. CARR. Another thing I asked you about last year—and I think somebody said they were going to check on it and get back—was red-yellow-green warning lights.

One of my annoying pet peeves as a driver is that my ability to anticipate what is happening in the road in front of me is inhibited when I am following a vehicle I can't see through. NHTSA seemed to recognize that phenomenon by requiring the high-mounted taillight, that the motorist tends to not only have an eye on the car in the front of him or her, but also on the car in front of the car in front as a way of anticipating traffic conditions.

There are more vans now than there ever were. They don't provide that kind of vision. I suppose the prudent driver follows a bit further behind for unexpected braking. Nonetheless, I suspect that few people do. And I raise to you the technology that I observed on some European-built buses that were out at National Airport where those vehicles have not only a brake light but also a yellow light and a green light. At least, you could see that the driver ahead of you in a vehicle that blocks your path has their foot on the accelerator or has their foot off the accelerator before having their foot on the brake.

And I don't, frankly, recall what your answer was last year, but have you given any other attention to that?

Well, I have got it in front of me now. Mr. Parker answered last year.

In your testimony last year you said the work that you had seen says that if you have all vehicles equipped with the red-yellow-green lights, it just becomes an array of different colors. Drivers have a difficult time deciding what to do. Have you looked at that issue any more in the last year?

Mr. PARKER. No, we haven't, Mr. Chairman.

I do recall that discussion last year, and you quoted part of the answer. I think the other part of the answer was that there was a feeling from the research that we have reviewed on similar types of things—not exactly the same application—that if the person in front of you would lift off on the gas pedal and not brake, that after a while there would be compensation, and the drivers wouldn't pay any attention to it.

We haven't done anything in that, but I will commit to take a look at this and see if there is research that we ought to do on that particular concept.

Mr. CARR. I wish you would, actually. Perhaps, you could ask some of these transportation research institutes that we have around the country to take a look at it.

I personally just find it terribly useful to know, when the person ahead of me doesn't have their foot on the accelerator. I am not proposing this for all vehicles. I just think this is helpful when you can't see around the vehicle in front of you. It is helpful to know that they are slowing. You don't have to know why. They may be slowing to go to the bathroom. Who cares?

But they may be slowing because there is an obstacle in front of them that you can't see, and it gives you an additional split second of warning that helps, particularly when you are traveling down the road and the normal expectation is that the driver in vehicle in front of you has their foot on the accelerator.

If you have good visual acuity you can determine deceleration rates of the vehicle in front of you. But, some people don't have that visual acuity, and some of them may have gotten a little too close so that they don't have that time to react.

I find it an immensely useful thing. Please give us a little information on it and report back to us.

I observed these on European-built buses. Is there a standard in Europe? If there is a standard in Europe, perhaps they have done some work in this area.

Mr. Parker. We will ask and find out if that is the case.

CONCLUSION OF HEARING

Mr. Carr. I am being advised to move on here because we have to have time to clear the room and get it ready for our friends at the HUD and Independent Agencies Subcommittee.

We have a number of questions about the strategic plan, staffing and administrative cost reductions, user fees for publications, and organization of regional operations and traffic safety programs. We have a large number of questions, you will be happy to know, on your budget justifications.

This will keep somebody working for a while, not that we ask questions just to make people work. It is information that we do use to make judgments about your budget.

We want to thank you for being here and the time and attention that you give to the subcommittee's concerns, and the good work that you do.

Mr. Smolkin. Thank you, Mr. Chairman.

Mr. Carr. Occasionally, we discuss the good work that you don't do. Thank you.

COST-EFFECTIVE PROJECT CRITERIA

Mr. Carr. This year I have talked a lot about cost/benefit analysis and my interest in ensuring that we get a sufficient rate of return on our federal investments in transportation infrastructure. I am also interested in the costs and benefits of NHTSA's activities. The fiscal year 1994 budget request for NHTSA is $307.024 billion in new budget authority and obligation limitations. Your justifications state that "Selecting cost effective projects was one of our key criteria in developing the fiscal year 1994 Budget."

How do you determine which projects are cost effective?

[The information follows:]

The agency estimates the potential reduction in fatalities and injuries for its projects, and their potential costs. Reduction in injuries and fatalities can be translated into reduction in societal costs. Agency research has developed detailed estimates of the societal cost reduction associated with these lives saved and injuries averted.

A recent analysis has shown that from 1966 to 1990 a fatality reduction of 243,000 lives can be attributed to highway safety programs. This life saving saved society $171 billion, based on an estimated $702,000 per fatality. These same programs also reduced the number of injuries, saving society an estimated additional $381 billion. The total cost to society of these programs was estimated to be $162 billion, including government costs as well as cost to the consumer to pay for additional safety features on vehicles. That is, society paid $162 billion to save $552 billion, a ratio of 3.4. Looked at another way, society "profited" from these programs by $390 billion, an annual average of nearly $16 billion. NHTSA budgets, which provided much of the leverage for these savings were typically in the $200 to $300 million range, providing a societal return ratio well in the double digit range.

True benefit/cost analysis requires an estimate of what society would be willing to pay to avert a fatality. Agency research has shown that value to be $2.6 million for motor vehicle related fatalities. The overall benefit/cost ratio is thus 3.7 times the cost saving ratio, or 12.6. Few government programs approach ratios of this magnitude.

PRESIDENT'S INVESTMENT PROGRAM

Mr. CARR. The President's fiscal year 1994 budget includes an increase of $32 million in obligational authority for highway safety grants as part of his "investment program." Why should this funding be considered in a different light than the other $145 million included in the base budget requested for highway safety grant programs?

[The information follows:]

In President Clinton's February 17th address to the Congress, and in the related report, "A Vision of Change for America," the Administration outlined an economic plan with three basic elements: economic stimulus, long-term public investments, and budget deficit reduction. President Clinton's budget message to the Congress, transmitting the FY 1994 budget proposals, also emphasized the importance of his economic plan and its three basic elements. Consequently, the President's Budget for FY 1994 provides separate identification of the Administration's proposals for providing economic stimulus and expending public investments. Therefore, when looking at the total NHTSA budget, $32 million is identified in the separate budget category provided for the Administration's investment programs. However, it is important to note that the investment program represents a portion of the total NHTSA budget request. The total request should be viewed as essential to the success of proposed FY 1994 program activities.

Mr. CARR. What criteria were used to define what activities should be considered "investments" as compared with other cost-effective activities?

[The information follows:]

In the case of NHTSA, the Administration's investment program includes the proposals to increase funding above the budget baseline level. This funding is for grants to States to reduce alcohol-related traffic accidents, increase the use of safety belts and motorcycle helmets, and promote traffic safety. Expending funding for these grant programs will enhance State capabilities to reduce traffic accidents. Because traffic accidents have an extremely high economic cost to society ($137 billion per year) and an extremely high personal cost to the victims, reducing these costs will clearly have significant economic and personal benefits.

NHTSA also has cost-effective programs that are not categorized as investment programs. These include a variety of very important, ongoing highway safety activities including all the activities funded in the Operations and Research account as well as some of the programs funded in the Highway Traffic Safety Grants account. Moreover, there are several important grant programs where a portion of the funding is categorized as "non-investment" while additional funding is categorized as "investment". It is important to view the NHTSA's total request as essential to the success of the proposed FY 1994 program activities.

Mr. CARR. What do you hope to achieve with the additional funding?

[The information follows:]

This funding will further efforts to reduce drunk driving, to promote safety belt and motorcycle helmet use, and to promote traffic safety. These are all critical human capital priorities.

Alcohol-related crashes alone cost society $46 billion annually, while all traffic accidents cost society $137 billion annually. There are also tremendous personal costs resulting from these accidents. Most of the investment program funds in NHTSA will be used to combat drunk driving, while the other investment funds will promote other types of traffic safety. These funds should help to further reduce the costs of traffic accidents.

PERFORMANCE AGAINST PRIORITY PLAN

Mr. CARR. NHTSA's 1991–93 Priority Plan established three specific goals for motor vehicle safety. These goals were: to reduce the death rates from motor vehicle crashes to 2.2 fatalities per 100 million vehicle miles traveled by 1992; to increase safety belt use to 70 percent of all motorists by 1992; and to reduce drunk driving.

Can you tell us specifically how well the agency did in meeting those three goals?

[The information follows:]

These goals were actually the President's goals for highway safety. We exceed the most important of them, achieving a fatality rate of 2.2 per 100 million vehicle miles travelled in 1989, and exceeded it substantially in 1992. Last year, traffic fatality rates were at record lows of 1.8 per 100 million vehicle miles travelled and 15.4 fatalities per 100,000 population. Even the total number of motor vehicle fatalities is at a thirty year low. Our preliminary estimate is that 39,200 people lost their lives in motor vehicle crashes in 1992.

Unfortunately, we did not do as well in safety belt use. Our final assessment is that safety belt use in the U.S. reached 62 percent in 1992. While we missed our goal, this is also a record high rate of belt use.

We have no direct measure of drunk driving. However, we can infer a reduction in drunk driving from the fact that preliminary fatal crash statistics show that 46 percent of all fatal crashes in 1992 involved a driver or pedestrian who had been drinking. This is also a record low, down from around 50 percent in the late 1980s and 48 percent in 1991.

Although all of these statistics are going in the right direction, they can be further improved, and NHTSA is committed to working toward safer highways. Our Priority Plan of activities through 1994, "Moving America Safely" cites 80 percent safety belt use and further reductions in alcohol involvement in motor vehicle crashes as long-term goals.

U.S. VS. FOREIGN DEATH RATES

Mr. CARR. It appears that 1992 was a good year in that for the first time highway fatalities dropped below 40,000 annually. The rate of highway fatalities dropped to its lowest point ever—1.8 deaths per 100 million miles.

Are there any countries that are doing better than we are in reducing traffic fatalities?

[The information follows:]

Between 1990 and 1991 (the most recently available international information) the United States' reduction in fatalities was 7 percent (44,599 to 41,462). A review of available information for other countries shows that France experienced a 7 percent reduction and the Netherlands had a 6 percent reduction. Japan experienced a 1 percent reduction in fatalities during this time period.

A review of available information on fatality rates per 100 million vehicle kilometers traveled for 1991 shows the U.S. at 1.2, followed by the Netherlands at 1.3. The fatality rate in France was 2.2, while the rate in Japan was 1.8.

FATALITY RATE REDUCTIONS

Mr. **Carr**. In what areas (e.g., pedestrians, motorcyclists, etc.) did we make the greatest gains in improving traffic fatality rates?

[The information follows:]

While the overall reduction in traffic fatalities between 1991 and 1992 was 5 percent, the reduction among non-occupant fatalities (generally pedestrians and pedal cyclists) was 9 percent and for motorcyclist fatalities, the reduction was 17 percent. There are preliminary estimates for 1992 and many change when the Fata Accident Reporting System file is completed.

DEATHS VS. AUTO AGE/SIZE

Mr. **Carr**. Last year, I asked you if there has been any correlation between fatalities and size and age of the automobile. You indicated that some work would be planned in this regard. What have you done in the past year to look at these issues?

[The information follows:]

Recent analyses on the effect of care size on fatality and injury risk lead to the following conclusions. During model years 1970–1982, passenger cars became substantially smaller in the U.S. The median curb weight of new cars involved in fatal crashes decreased by about 1,000 pounds (from 3,700 to 2,700 pounds). NHTSA estimates that the reduction of the average weight of new cars from 3,700 to 2,700 pounds (or the associated reductions in car length and width) resulted in increases of nearly 2,000 fatalities and 20,000 serious injuries per year. Car size has a larger effect on fatality risk in rollover crashes than in other crash modes, not because small cars are less crashworthy in rollovers, but because they are more rollover prone.

Over the past year, NHTSA has not conducted any studies that focused on the vehicle age issue. However, previous work on the evaluation of NHTSA's fuel system integrity standard (Federal Motor Vehicle Safety Standard 301) and analysis in support of the on-board vapor recovery issue demonstrated that the likelihood of post-collision fire occurrence in passenger cars increases as the vehicle ages.

FATALITY REDUCTION STRATEGIES

Mr. **Carr**. The record in reductions in highway fatalities is very positive and a tribute to many of your agency's efforts. I expect, however, that it will require even greater efforts to produce even more dramatic gains to reduce the fatality rate much lower. Do you have a plan or collection of strategies to accomplish this?

[The information follows:]

The agency plans on a variety of programs and strategies to accomplish the goals reflected in the priority plan. The agency has been publishing three-year plans of its priority programs for a number of years, allowing the public to be aware of what the agency intends to accomplish over the near term. Also, internally, five-year plans for the major programs are prepared. For the longer term viewpoint, the agency has recently initiated a strategic planning activity. In addition to these plans, the agency undertakes studies from time to time to establish goals. In the fall of 1992 an effort was undertaken to determine feasible goals for the year 2000. It was determined that considerable potential remained for reducing fatalities and injuries resulting from motor vehicle crashes.

Based on the results of the analyses for the year 2000 study, goals have been established by Secretary Peña for the next four years: reducing alcohol related fatalities from 46% of all fatalities to 43%, and increasing safety belt usage to 75%. Based on preliminary 1992 fatality levels, the alcohol reduction would save an additional 1,200 lives and the increased belt usage would save an additional 1,500 lives. Reduction in speed related fatalities and improvements in vehicles also will save additional lives. On the longer term, the IVHS has major life saving potential as a result of reducing the number of crashes. Estimates of 11,000 lives per year saved as a result of IVHS have been made by private sector analysts.

Although the agency is proud of its accomplishments, it is not complacent. The agency believes there is much work left to do in highway safety.

HIGH-RISK GROUPS

Mr. CARR. Targeting high risk drivers, such as younger drivers who are over-involved in crashes and older drivers who are under-involved in crashes, but more likely to die when involved in an accident may be the key to achieving those major advances in highway safety. Please give us some specific examples of how you are targeting your resources to these groups.

[The information follows:]

NHTSA has been involved in substantial research activity over the years to improve the driving performance of younger and older drivers. Much of this research is summarized in a NHTSA report submitted to Congress in February, 1993 that presents the Agency's research agenda for these groups.[1] Projects scheduled to be awarded this fiscal year include a major study of risk taking by young drivers and research examining how cognitive and functional limitations of older persons relate to their driving behaviors.

NHTSA-funded programmatic activity directed at target populations has largely focused on the youth area. One example is TeamSpirit, a program in which Mothers Against Drunk Driving (MADD) conduct youth leadership training workshops. Another example is work being conducted by Students Against Driving Drunk (SADD) to develop a training manual for traffic safety youth coordinators and conduct training in pilot states. A cooperative agreement with the Maryland Department of Transportation will implement different approaches to the underage drinking problem and belt use among young people. The Washington Regional Alcohol Program (WRAP) is conducting a three year project to develop a model strategy to deter underage drinking in the Washington, D.C. regional area.

The key roles of the enforcement and adjudication communities in combatting the youth alcohol problem are reflected in several projects that have been initiated. The International Association of Chiefs of Police (IACP) will conduct workshops for middle management police officials to address the low enforcement rate of traffic offenses among youth. The Police Executive Research Forum (PERF) will develop justice system models to increase enforcement and initiate demonstration sites. Another project, supported with the Departments of Justice and Agriculture, will initiate judge-led community task groups to address the youth drug/alcohol and impaired diving problems.

In addition to the above, the Injury Control Center of the Harvard School of Public Health is conducting research under a cooperative agreement with NHTSA to identify target groups within the population that are high risk for drinking and driving.

SAFETY BELT GOAL

Mr. CARR. Secretary Peña recently announced at the Lifesavers conference in Chicago that the Department was adopting a new goal for safety belt use of 75 percent by 1997. Your previous goal was achieving a 70 percent use rate by 1992. Your budget justifications, however, refer only to a reaching a goal of 75 percent in a few years. That seems very ambiguous. I have no followup by your agency.

If you are launching a new safety belt use campaign, this is a very unimpressive way to do it. Why haven't you done more to promote your new safety goal?

[The information follows:]

Since the Secretary's announcement, the agency has been engaged in a vigorous effort to develop a combined emphasis program, one that would address both goals announced by the Secretary at the Lifesavers Conference—increasing the safety belt usage rate to 75 percent by 1997, and reducing alcohol-related fatalities to 43 percent of all fatalities by that same year.

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[1] Addressing the Safety Issues Related to Younger and Older Drivers. A Report to Congress on the Research Agenda of the National Highway Traffic Safety Administration.

Promotional campaign ideas have been sought from NHTSA's Regional Offices and their respective States and localities. The Advertising Council has been asked to apply their creative talents to the task of developing campaign concepts for promoting this new combined emphasis program. The agency fully expects this new combined emphasis program will be the centerpiece of the agency's traffic safety program activities over the next four years.

Mr. CARR. How did you arrive at the 75 percent target, and will this goal be reflected in your next Priority Plan?

[The information follows:]

The 75 percent goal was selected because it is both reachable and challenging. Most members of the European Community, Canada, Australia and New Zealand have already exceeded 75 percent usage. Several have exceeded 85 percent, a few 90 percent. Thirteen percentage points in four years seems within reach, given the 10 point gain achieved in 1991–92.

This goal will be reflected in the next update of the agency's Priority Plan.

Mr. CARR. What do you believe the life saving impact will be of achieving a 75 percent use rate by 1996?

[The information follows:]

Increasing the national safety belt use rate from the current 62 percent to 75 percent would save an additional 1,900 lives each year, and prevent about another 50,000 injuries.

NTSB RECOMMENDATIONS ON NIGHTTIME CURFEWS

Mr. CARR. The NTSB recommended that states implement several controversial measures, including nighttime driving curfews for 16- and 17-year-olds. Do you believe that the potential benefits of such curfews would offset the negatives, such as limiting driving privileges for the majority of young people who do not drink and drive?

[The information follows:]

NHTSA believes that the benefits of nighttime curfews for young, inexperienced drivers offset the disadvantages of reduced mobility. Nighttime curfews reduce youthful driving during the riskiest hours—when they are tired, when visibility is poor, when they are most likely to drink and drive, and when they are most likely to encounter other drivers who are impaired. Several studies have shown clearly that nighttime curfews for youthful drivers reduce crashes.

The model provisional licensing program developed by NHTSA and the American Association of Motor Vehicle Administrators recommends a nighttime curfew for young, inexperienced drivers. The Agency continues to believe that the demonstrated safety benefits of nighttime curfews more than justify their reduction in mobility for youth.

STATE YOUNG DRIVER PROGRAMS

Mr. CARR. NHTSA's efforts have contributed to a significant reduction in youth-involved fatalities, but these efforts appear not to have convinced many states to enact the comprehensive mix of programs that appear necessary to combat recent increases in drinking and driving among teenagers. What could NHTSA do to strengthen your activities to convince states to move expeditiously to strengthen their laws and programs targeted at youth drivers?

[The information follows:]

Teenage drinking and driving has decreased steadily over the past several years. FARS data show that the number of drivers aged 16–20 with any measurable alcohol involved in fatal crashes decreased from 3,285 in 1988 to 2,796 in 1990 and 2,389 in 1991—a drop of 27 percent in three years. The number with a BAC of 0.10 or higher decreased from 2,105 in 1988 to 1,861 in 1990 and to 1,606 in 1991—a drop of 24 percent in three years.

Even after these impressive results, NHTSA believes that states and communities can reduce youthful impaired driving further by adopting effective laws and programs. The Agency encourages states to adopt zero tolerance laws that make it illegal for youth under 21 to drive with any measurable alcohol in their blood. The Agency has evaluated these laws and demonstrated their effectiveness. In fiscal year 1994, the Agency will fund a provisional licensing system demonstration that includes a zero tolerance law.

Laws must be enforced and publicized to be effective. In 1993, the Agency will conduct state workshops for police officers to increase their enforcement of underage impaired driving laws. These workshops are based on results of previous Agency research.

The Agency believes that the most important actions to reduce teenage drinking and driving take place at the local level and involve a comprehensive mix of laws, enforcement, prevention, and education. The Agency funded and helped plan two youth alcohol conferences, sponsored by the National Association of Governors Highway Safety Representatives (NAGHSR) and the National Commission Against Drunk Driving, to encourage state and community action. The Agency is conducting a followup project with NAGHSR to assess state activity and provide guidance in implementing local programs. Finally, the Agency has funded the Washington Regional Alcohol Program's development of a model community youth alcohol program. After it is fully developed, the Agency will promote the program extensively to other communities.

TEENAGE DRINKING PROGRAM

Mr. Carr. How does your fiscal year 1994 budget request address the teenage drinking and driving issue?

[The information follows:]

NHTSA is requesting $1,200,000 for youth drinking and driving programs for fiscal year 1994, allocated as follows.

$500,000 is budgeted to conduct a state provisional licensing system demonstration. The system includes many elements recommended in the recent National Transportation Safety Board report.

$300,000 is budgeted to support enforcement of minimum drinking age 21 and youthful drinking and driving laws. These funds will be used to train police in better enforcement methods and to develop innovative techniques to assist the courts in dealing with youthful offenders.

$200,000 is budgeted to develop and disseminate improved public information and education messages and materials targeting youth, especially high-risk and cultural minority youth.

$100,000 is budgeted to develop worksite traffic safety programs directed at youth, both in part-time and full-time jobs.

$100,000 is budgeted to support comprehensive community programs that address youth drinking and driving.

DANFORTH GRANT BILL

Mr. Carr. Senator Danforth has introduced legislation to establish a new grant program to address the problems identified in the NTSB report. Do you support the Danforth bill?

What is your view of the value of a new traffic safety incentive program aimed at reducing youth fatalities?

[The information follows:]

The Department is currently formulating its views on Senator Danforth's Bill, S. 738. This bill includes a new traffic safety incentive program aimed at reducing youth fatalities. NHTSA will provide you with the agency's view of the value of such a program when the Department's position on S. 738 is determined.

SEC. 408 AND SEC. 410 EFFECTIVENESS

Mr. Carr. In fiscal year 1993, $34 million is available for both the Section 408 grant program and its successor, the Section 410 grant program, which are targeted to alcohol-impaired drivers. Are these programs as effective as they should be in addressing the teenage drinking and driving problem?

[The information follows:]

Although Section 408 did not address the teenage drinking and driving problem in a substantive way, the section 410 grant program does. One of the basic criteria for Section 410 grants requires states to have an effective system for preventing young drivers from obtaining alcoholic beverages. The system must include a readily-distinguishable driver's license for youth, an enforcement strategy directed both at alcohol sale and purchase, and an information and prevention program for youth.

All 17 states that qualified for first-time grants in 1992 satisfied this criterion. The Agency expects this criterion to encourage additional states to improve their programs directed at youth drinking and driving.

OLDER DRIVER BUDGET PLANS

Mr. CARR. This Committee has recognized older drivers as a group on which NHTSA should focus. Per mile driven, drivers over 70 years of age are more likely than middle aged drivers to be in fatal crashes. Moreover, the elderly may well be the fastest growing group in the driving population.

Last year, this Committee added funding to your fiscal year 1993 budget for research to study older drivers. How are you spending the $500,000 we provided?

[The information follows:]

These funds are being used to support work to develop testing instruments and procedures needed by State driver licensing agencies to detect older drivers who might be involved in these crashes.

The agency is entering into a cooperative agreement with the State of California to develop an improved driver license screening program for problem older drivers.

Research has documented that older drivers are over-involved in intersection crashes relative to their proportion in the driving population. For this reason, the agency has also initiated a project to determine how older drivers with functional limitations negotiate familiar and unfamiliar intersections.

The results of this research will also serve as a basis for improved training and public information materials.

OLDER DRIVER INITIATIVES

Mr. CARR. Your budget justifications refer to new initiatives in the older driver area. What are these new initiatives and are they a part of your research plan submitted at the Committee's request for addressing older driver issues?

[The information follows:]

The Agency's initiatives on older drivers are:

Determining the extent to which older drivers adequately self regulate and developing procedures for identifying those who do not.

Documenting the mobility consequences of relinquishing the driver license.

Identifying barriers to physician referral of patients for license re-examination and family or friend's reporting of suspected diminished capability drivers.

These new initiatives are reflected in NHTSA's recently-updated research plan for older drivers that was presented to the Committee.

OLDER DRIVER RESEARCH PLAN

Mr. CARR. Please provide a copy of the research plan for the hearing record.

[The information follows:]

THE NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

TRAFFIC SAFETY PLAN FOR OLDER PERSONS

U.S. Department
of Transportation

**National Highway
Traffic Safety
Administration**

March 1993

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PREFACE

In the mid-1980's, it became apparent that the problems facing older drivers, occupants, and pedestrians required increasing attention. Not only were the number of older Americans increasing, more were driving and the incidence of injury and fatality resulting from motor vehicle crashes was increasing at a faster rate than the population growth. To address this problem the agency developed and published an action plan, "The National Highway Traffic Safety Administration's Traffic Safety Plan for Older Persons," in September 1988.

The research undertaken to implement the 1988 plan indicated that older drivers are overrepresented in crashes at intersections and during certain hours of the day, that they are underrepresented in crashes involving alcohol or speed, and that many older drivers tend to self-adjust their driving to accommodate any reduction in functional capacity. The results also showed that older driver safety problems are concentrated among older drivers who are either unaware of their difficulties or unable to make compensating adjustments to their driving. Included are drivers with peripheral vision problems that are not easily detectable with standard vision tests or those who cannot comprehend their difficulties, such as those with dementia. Similar problems were also uncovered in pedestrian safety. In addition, the research confirmed that drivers, passengers, or pedestrians over age 80 are more likely to be injured or killed in a crash than younger persons.

The 1990 census data showed that the rapid growth of the older population that initially triggered the agency's efforts to focus on older person traffic safety continued and if anything accelerated. From 1980 to 1990 the population over age 65 increased 20.9% while the general population grew by just 9.2% percent. While this difference is substantial, it will be overshadowed by changes projected by the U.S. Census Bureau for the future. For the decade from 2010 to 2020, the overall population increase is expected to be 8.2 percent, while the over 65 year old population is expected to grow by 35.1 percent!

In response to the continuing and growing older person traffic safety problem, the agency prepared this Traffic Safety Plan for Older Drivers. It describes major agency efforts in Problem Identification, Program Development, and Program Evaluation activities intended to improve the safety of older drivers, vehicle occupants, and pedestrians. It follows the information presented in "Addressing the Safety Issues Related to Younger and Older Drivers, A Report to Congress," February 1993.

As with earlier efforts, the projects summarized in this plan continue to involve other Department of Transportation agencies, including the Office of the Secretary of Transportation, the Federal Highway Administration, and the Federal Transit Administration regarding projects in such areas as pedestrian safety, alternative transportation systems, and driver/highway interface. The plan also involves the highly specialized expertise found in other government agencies, including the National Institute on Aging, the Administration on Aging, and the Centers for Disease Control. In addition, NHTSA will continue to involve non-government organizations familiar with the needs and concerns of older persons as appropriate.

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Problem Identification

1. Establish the Crash Risk for Specified Medical/Functional Conditions

   This project, begun during 1992 with Oak Ridge National Laboratories, will determine the conditions under which older drivers pose a threat to public safety and therefore need to be identified and made subject to license control. The study will establish a statistical link between crash risk, moving violations, and physical or mental conditions. It will also identify the extent to which individuals with conditions that affect driving performance correctly modify their driving behavior.

   Estimated time: Initiation - Fall 1992
   Completion - Fall 1994

2. Determine If Older Drivers Adequately Self-Regulate

   NHTSA will determine the characteristics of drivers who do and do not adequately self-regulate, and also the conditions, if any, under which these drivers may be able to drive while preserving safety.

   Estimated time: Initiation - Fall 1994
   Completion - Fall 1996

3. Document the Mobility Consequences of Relinquishing the Driver License

   This research, expected to be conducted jointly with the Federal Transit Administration and the Administration on Aging, will document the broad array of concerns expressed by older persons who surrender their driver license, and will prepare materials for use by local community planners in assessing available transportation remedies that address these concerns.

   Estimated time: Initiation - Fall 1994
   Completion - Spring 1996

4. Analyze Vehicle Crashworthiness for Older Occupants

   NHTSA will analyze crash data to compare the injuries older persons receive when they are restrained with lap and shoulder belts and/or air bags, in contrast to the injuries sustained by similarly restrained younger persons. Since older occupants are more likely to be involved in side impact crashes, NHTSA also will monitor the changes in injury to older and younger vehicle occupants to determine the relative effectiveness of the side padding and structural improvements that manufacturers will be installing as the new dynamic side impact regulation is phased into passenger cars in the next few years.

Estimated time:	Initiation (Restraints) - Fall 1992 Initiation (Side Impact) - Fall 1994 Completion (Restraints) - Spring 1995 Completion (Side Impact) - Fall 1998

5. Identify the Causes of Older Driver Intersection Crashes

This research will investigate the causes of older driver crashes at intersections, especially those involving left turns. The findings from this research will become the basis for new informational or training materials for older drivers.

Estimated time:	Initiation - Fall 1993 Completion - Fall 1995

6. Identify Barriers to Physician Referral of Patients for License Re-exam

This project will investigate the legal, ethical, and practical barriers to effective reporting by physicians of suspected diminished driver capacity and will examine ways to improve safety by improving the reporting requirements by physicians. This analysis will include an investigation of the safety and mobility impacts in States with different reporting requirements.

Estimated time:	Initiation - Fall 1995 Completion - Fall 1996

7. Identify the Practical Problems with Family or Friends' Reporting of Suspected Diminished Driver Capacity

This study will examine the practical effects of the existing State laws that either require or prohibit families' and friends' reporting of a potentially unsafe driver. Some States require that the driver called in for re-examination be given the name of the individual who reported the unsafe driving. This project will recommend improvements for these various State reporting laws.

Estimated time:	Initiation - Fall 1995 Completion - Fall 1996

8. Identify Specific Vehicle Design Practices that Enhance Older Driver Crash Avoidance

Crash avoidance and older drivers will be addressed as a dedicated research program with the following major objectives:

1. Assess research needs and opportunities relating to older driver safety, with emphasis on vehicle design practices and potential countermeasures.

2. Develop methodologies and perform research on the effect of vehicle design practices, including advanced technology countermeasures, on older driver crash involvement.

3. Recommend specific vehicle design practices, including crash avoidance countermeasures.

In addition to this research on specific vehicle design practices, Project #15 will continue, on an on-going basis, to consider the needs and functional limitations of the older driver in virtually all NHTSA crash avoidance research.

Estimated time:	Initiation - Spring 1993 Completion - Spring 1997

Program Development

9. Develop Performance Assessment Techniques

This project will produce tests that will more closely duplicate driving situations faced by older drivers. The products developed will be field tested prior to any generalized distribution. The purpose of these tests will be to better detect problem older drivers than the generalized tests typically in use today. In particular, functional limitations that are most often the result of medical conditions will be identified through these new testing procedures.

Estimated time:	Initiation - Fall 1993 Completion - Winter 1997-8

10. Develop Ways to Meet Mobility Needs of Older Former Drivers

This project is expected to be conducted in cooperation with the Federal Transit Administration and the Administration on Aging. It will use the results from Project #3 to produce strategies for meeting the transportation needs of older people who can no longer drive. This project will prepare informational packages, training materials, and guidelines designed for use by State and local officials.

Estimated time:	Initiation - Fall 1996 Completion - Fall 1998

11. Develop Improved Intersection Negotiating Practices

NHTSA will develop behavioral and other solutions for improving intersection negotiating practices by older drivers. This project will utilize the findings from Project #5 to develop informational and training programs for older drivers that are designed to help them compensate for their limitations.

Estimated time:	Initiation - Fall 1995 Completion - Winter 1997-8

12. Develop Empirical Guidelines for Medical Practitioners

This research will build on the conclusions and findings from Projects #1, 2, 3, 4, 6, and 7 to develop practical guidelines for physicians and other medical practitioners based on NHTSA epidemiological data. These guidelines will provide the medical community with clear criteria on when and whether a patient's driving should be curtailed or stopped based on physical or psychological findings. These guidelines will replace current medical practice that relies upon an individual's "best professional judgement" rather than upon empirical data.

Estimated time: Initiation - Fall 1996
Completion - Spring 1998

13. Develop Materials for Use by Older Drivers in Making Their Driving Decisions

NHTSA will use the results of Projects #1, 2, 3, 7, 9, and 10 to develop materials that will assist older drivers in determining when they have driving problems. This will be done in a number of ways, including offering "self-test" procedures that individual drivers may use to identify the extent to which they should limit their driving. These materials will also assist families, caregivers, and law enforcement personnel to identify drivers who present symptoms that impact the ability to drive safely. Finally, this project will develop materials for use by testing centers that will provide independent counsel to older drivers on their ability to continue driving.

Estimated time: Initiation - Fall 1997
Completion - Fall 1999

14. Develop Training and Information Programs

NHTSA will use the results of projects #1,2,3,7, and 9-13 to prepare instructional materials to aid older drivers in safely meeting their mobility needs. This study will also examine existing training programs such as those that now teach stroke or head injured patients to drive again to ascertain the extent that such programs successfully reduce unsafe driving behaviors. This study will determine if these programs with or without modifications are transferrable to re-training of functionally limited older drivers, and will prepare training programs to be offered by national organizations to their older members.

Estimated time: Initiation - Fall 1998
Completion - Fall 2001

15. Consideration of Older Drivers in All Crash Avoidance Research

NHTSA's crash avoidance research program emphasizes the assessment of vehicle design practices that influence driver performance and crash involvement. In virtually all such research, the older driver is considered as a critical component of the driver population. This research considers both "conventional" design features (e.g., lights, mirrors, brakes), as well as advanced technology such as Intelligent Vehicle Highway System (IVHS) devices. NHTSA recognizes that IVHS may be a "double-edged sword" for the older driver. While opportunities exist for safety improvements, some IVHS applications could have the potential to *degrade* older driver safety by distracting or confusing the older driver with excessive warnings or other information. The National Advanced Driving Simulator will be a valuable research tool in this activity.

Estimated time: Initiation - Summer 1991
Completion - Continuing

16. Develop Safety Information Materials and Safe Pedestrian Zones for Older Pedestrians

Based on pedestrian accident data compiled jointly by NHTSA and the Federal Highway Administration (FHWA), pedestrian safety materials were prepared for dissemination by organizations to large groups of older persons. Analyses of these accident data also showed that pedestrian accidents tend to be clustered together in "zones." This current project is being conducted jointly by NHTSA and FHWA. It identifies safe pedestrian zones, and saturates them with a mix of safety information materials and traffic engineering countermeasures. The materials and countermeasures will be demonstrated in selected sites prior to general distribution.

Estimated time: Initiation - Summer 1990
Completion - Winter 1995-6

Program Evaluation

17. Evaluate Driver License Re-examination Requirements

This study will evaluate the outcomes of the different existing State driver license examination requirements that pertain to older drivers. Some States require older drivers to personally appear for license renewal so licensing officials can directly observe driver behavior, while other States permit older drivers, especially those with clear driving records, to renew by mail. This study will evaluate the safety benefits of these varying requirements.

Estimated time: Initiation - Fall 1993
Completion - Fall 1996

18. Evaluate NHTSA/AAMVA Model Driver Screening and Evaluation Program

This project will document and evaluate the safety outcomes of a program that will use the conclusions from Projects #1, 2, 3, 6, 7, 9, 10, 12, and 13 to develop a set of guidelines for use by State driver licensing agencies to assist in detection and regulation of problem drivers.

Estimated time: Initiation - Fall 1997
Completion - Fall 2001

19. Evaluate Medical and Community-Based Appraisal of Driving Limitations

This study will use the results from Projects #1, 2, 3, 6, 7, 9, 10, 12, and 13 to evaluate the safety outcomes of the medical community's actions in limiting the driving activity of functionally impaired drivers, and the functionally impaired driver's own limiting of the driving activity.

Estimated time: Initiation - Fall 1998
Completion - Fall 2001

20. Evaluate Programs that Maintain Former Driver Mobility

This study will evaluate the results of Project #9 to determine if programs developed for the purpose of assuring that older former drivers successfully maintain their mobility have attained that goal.

Estimated time: Initiation - Fall 1997
Completion - Fall 2001

DRIVER EDUCATION

Mr. Carr. For the last several years during our hearings, I have asked you about driver education and what you are doing in this area. Last year General Curry promised me that NHTSA would move forward to work on improving the quality of driver education programs, perhaps moving toward developing national standards or an effective driver training curriculum. NHTSA subsequently indicated that it would convene, late in 1992, a workshop on national experts in the areas of driver education, risk taking and decision making. Can you tell me if the workshop was held and what came out of it? Why are you moving so slowly? Why aren't you working on a research agenda to better understand how to train young drivers and to improve driver education programs?

[The information follows:]

The workshop was held on April 27 & 28, 1993. A select group of national experts discussed young driver risk taking, the role that driver education could play in reducing that risk, and the role of driver education as a part of a provisional licensing system. A report documenting the discussion and recommendations of the workshop will be available in June 1993. These recommendations will help determine the research and development that might lead to a reduction in young driver risk taking.

Contracting difficulties delayed the conduct of the driver-education workshop until late April 1993. This workshop is but one of several planned studies directed at understanding youth and risk-taking and improving driver education. NHTSA submitted a summary of its research program for younger drivers to this Committee in February 1993 (Addressing the Safety Issues Related to Younger and Older Drivers, A Report to Congress on the Research Agenda of the NHTSA).

Mr. Carr. Do you have any data on the effectiveness of programs that combine provisional licensing for younger drivers with quality driver training programs?

[The information follows:]

Although no State currently has a quality training program integrated with a provisional licensing program, NHTSA's recent workshop generated a great deal of discussion on the topic. NHTSA is hopeful that the workshop report will create sufficient interest for one or more States to institute a combined program. NTHSA will work with the States to generate a program containing these features in order to properly evaluate the concept. However, the Agency has shown in separate studies that provisional licensing can reduce the crashes of young drivers and that a quality driver training program has the potential to reduce crashes.

AIR BAG EFFECTIVENESS

Mr. Carr. Some observers anticipate that, notwithstanding new federal mandates requiring all new passenger cars to be equipped with full front seat air bags by 1998, the majority of new cars on the market may be equipped at least with driver side air bags as early as next year. This means that it will be increasingly important for NHTSA to educate consumers about the benefits and limitations of air bags.

What do the cumulative data show regarding the effectiveness of air bags in cars and the reduction in fatalities and injuries as a result of the introduction of air bags?

[The information follows:]

The agency issued an Interim Evaluation Report on the effectiveness of occupant protection in June 1992, based on data available as of May 1992. This report showed that the fatality risk of occupants in cars equipped with air bags plus manual belts (at 1991 use rates) is 23 percent lower than in "baseline" cars with manual belts at 1983 use rates. Based on limited data, the report also estimates that an occupant protected by the air bag plus manual belts has 68–77 percent lower risk of moderate-to-serious injury than an unrestrained occupant.

By the end of 1991, air bags (in combination with safety belts) had saved an estimated 300 lives and prevented 15,000 moderate-to-critical injuries. The agency estimates that if all passenger cars on the road were equipped with air bags and safety belts (at 1991 use rates), there would be 2,840 fewer fatalities per year than if the cars were equipped only with safety belts.

Mr. CARR. To what extent have air bags been (1) deploying when they should not and (2) not deploying when they should?

[The information follows:]

In the deployment/non-deployment cases that the agency has reviewed, air bags have performed as designed by the manufacturers. That is, air bags have deployed when expected and have not deployed when the crash conditions were not at the required severity level. However, there have been seven isolated cases investigated of alleged inadvertent air bag deployment. Three occurred in early 1970's prototype vehicles, three were not available for a complete inspection, and one appears to have been in a prior crash. In examining these and other cases brought to the agency's attention, two reasons were found for the improper performance. The first is that the diagnostic message indicating an air bag system malfunction had been ignored. The second is that air bag systems inadvertently had been damaged by mechanics or technicians, thus leading to unanticipated deployments. None of the incidents resulted in a crash or significant injury to the occupants.

Mr. CARR. Now that several manufacturers have begun installing air bags in vans and sport-utility vehicles, what evidence is there on the effectiveness of air bags in those vehicles?

[The information follows:]

To date, vans and sport-utility vehicles equipped with air bags have not accumulated enough exposure on the road for a statistical analysis of their crash experience. The agency will monitor the crash experience of these vehicles and plans to develop effectiveness estimates. At this time, the agency believes the effectiveness of air bags in light trucks will be similar to passenger cars.

Mr. CARR. What differences, if any, exist between the air bag systems installed in passenger cars and those installed in vans and sport-utility vehicles?

[The information follows:]

The air bag systems installed in passenger cars, vans, and sport-utility vehicles are basically the same. Each has crash sensors, a diagnostic module, inflator (gas generator), and an air bag. The differences of the systems among the vehicles, even among passenger cars, are associated with the logic used to activate the inflator and with the amount of gas generated from the inflator. The deployment logic is dependent on the crash pulse of the particular vehicle. The crash pulse is dependent upon the vehicle's frontal structural characteristics and mass. Vehicles with higher deceleration, shorter duration crash pulses require earlier crash detection, earlier inflator initiation, and faster gas generation in order to provide the necessary occupant protection. In short, the air bag system is "tuned" for each vehicle design.

AIR BAG INJURIES

Mr. CARR. I have seen estimates that as many as one-third of motorists involved in crashes where the air bag was deployed are hurt by the air bag. The Insurance Institute for Highway Safety has announced plans to conduct a major study of thousands of air bag deployments to better understand ways to improve their design and performance. What have you learned about possible injuries caused by air bags?

[The information follows:]

Air bags are designed to cushion an occupant's deceleration during a frontal crash. When an air bag deploys, it generally makes contact with any or all of the occupant's head, face, neck, chest, hands or arms. Contact with the air bag protects the occupant from hitting the steering wheel, dashboard, windshield or other hard vehicle interior component. Sometimes, during deployment, interaction with the air bag can result in minor injury to the occupant. However, these injuries are less serious than would have resulted from the occupant hitting, for example, the steering column.

In an estimated 66,473 air bag deployments between 1988 and 1991, an estimated 25,071 persons received injuries during contact with an air bag. Of all injuries sustained that involved contact with the air bag. Of all injuries sustained that involved contact with the air bag, 96 percent were minor (level 1 on the Abbreviated Injury Scale (AIS), the lowest possible severity for an injury) and generally consisted of superficial abrasions, lacerations and sprains. Another 4 percent were moderate injuries (level 2 on the AIS), generally larger abrasions and contusions. Thermal burns have been a very small proportion of the injuries noted.

MONITORING AIR BAG-RELATED ACCIDENTS

Mr. CARR. What plans does NHTSA have to monitor air bag related accidents and to improve their safety?

[The information follows:]

NHTSA has been conducting special crash investigations of air bag equipped vehicles since 1972 and will continue to do so. These investigations have been used by the automotive safety community to improve the safety performance of these lifesaving devices. Improvements resulting from these investigations and other agency research activities include the addition of an energy storage device for the air bag should the battery be disconnected in a crash, the relocation of vents to reduce thermal burn injuries, and the modification of deployment thresholds, fold patterns, tethering, and rates of deployment to reduce abrasion and contusion injuries.

LOWER LIMB INJURY RESEARCH

Mr. CARR. Air bags and seat belts appear to have significantly reduced the danger of head and chest injuries in frontal crashes. People are now surviving accidents that might have killed them ten years ago, but are now suffering from crippling leg and lower-limb injuries. What research are you doing on this problem?

[The information follows:]

NHTSA is conducting a variety of research efforts to understand and to mitigate lower limb injuries. These efforts include: (a) detailed hard copy review and analyses of relevant cases from the National Accident Sampling System to establish crash conditions, injury modes, and injury severities associated with the fully restrained crash population, (b) pursuit of hospital based accident investigation studies which merge the medical talents and expertise of trauma center personnel with professional accident investigation teams to provide in-depth analyses of high-speed restrained crashes, (c) conducting experimental impact trauma research to determine and define the injury mechanisms and tolerances associated with lower limb injuries, (d) developing new lower leg components and instrumentation to incorporate into existing crash dummies to allow evaluation of lower limb hazards in staged crashes, (e) conducting a variety of high severity staged crashes with dummies to establish crash responses of current vehicles that produce conditions of lower limb injury, and (f) eventually developing, testing, and evaluating structural modifications and testing methodologies that will mitigate and limit this problem.

FRONTAL CASH PROTECTION RULEMAKING LEG AND FOOT INJURIES

Mr. CARR. Do you anticipate initiating any rulemaking on new standards on frontal crash protection that would provide protection against leg and foot injuries in frontal crashes?

[The information follows:]

Improved frontal crash protection is a high priority within the agency. Federal Motor Vehicle Safety Standard (FMVSS) 208, Occupant Protection, requires automatic crash protection at 30 mph for frontal impacts into a barrier. Protection is required for the front seat occupants' head, chests, and femurs. While the number of lives that will be saved by this standard is substantial, the agency estimates that even after full implementation of this standard, approximately ten thousand passenger car and light truck occupants will lose their lives each year in frontal crashes.

An improved frontal crash protection program is contained in the agency's priority plan to address this safety problem. Research is being conducted using real-world crash data, laboratory crash test data, and computer simulation to develop countermeasures. The agency is conducting research into injuries to all body regions including the head, neck, chest, abdomen, and lower extremities—leg and foot injuries. Particular concern has been focused on the role of crash induced intrusion and its relation to the causation of leg and foot injuries. It is anticipated that sufficient research should be completed in the next year for the agency to reach a decision on whether it is feasible to initiate further frontal crash protection rulemaking.

IVHS PLAN

Mr. CARR. In June 1992, NHTSA forwarded to the Committee a five-year research and development plan for IVHS. Would you highlight for us your strategic plan for addressing IVHS safety issues?

[The information follows:]

To be effective, vehicle-based safety devices must be available to, and be purchased by, the motoring public. Therefore, the goal of the NHTSA IVHS plan is facilitation of development and early deployment of safety products and systems by the industry. This requires research into the science of crash avoidance which can help enable the engineering of safety-enhancing products by the private sector. The agency will establish safety targets for crash avoidance technology, develop performance guidelines for crash avoidance systems, evaluate the safety performance of such systems, work with industry to demonstrate the most promising ones, and facilitate their deployment in the marketplace. NHTSA will also play a principal role in ensuring the system safety of the IVHS initiatives, including automated highway systems and mobility-enhancing systems. The agency has laid out a five-thrust plan for accomplishing this goal.

IVHS SAFETY RESULTS

Mr. CARR. The IVHS America strategic plan estimates that IVHS could reduce the number of traffic fatalities and the number of annual injuries by 8 percent by the year 2011. We heard testimony at the IVHS hearing held by the Committee from Dr. Thomas Horan at George Mason University who testified that"

". . . while the data suggest that collision-avoidance systems could make important gains in safety, their deployment is subject to private sector decisions, raising additional uncertainty about near-term deployment."

How much confidence do you have in the near-term projected safety impacts of IVHS?

[The information follows:]

Although an 8 percent reduction in deaths and injuries would be a significant safety improvement, the agency cannot verify this estimate at this time. Any such estimate is dependent on the effectiveness of the individual IVHS collision avoidance products and the number of equipped vehicles; neither of which are well defined today. A major part of the NHTSA program is to work with industry to develop products which are effective in helping drivers avoid collisions, and hence injuries and deaths. As the program matures, better estimates of effectiveness of individual products will emerge. Also as reliability and cost improve, there will be more willingness of the private sector to offer systems to their customers. In those instances, where there is a proven basis for safety benefits, the agency can assist in deployment through its regulatory authority.

IVHS IN ENFORCEMENT AND HEALTH

Mr. CARR. Dr. Horan recommended that because of the uncertainly about near-term IVHS deployment, ". . . it becomes increasingly important to demonstrate targeted impacts, especially across a range of potential users. For example, greater efforts could be made to test and introduce IVHS-related safety technologies to both law enforcement and health profession groups".

Do you agree with that recommended strategy?

[The information follows:]

We agree that it is important to demonstrate performance of collision avoidance systems at the earliest possible time, and our plan calls for this. We also plan to emphasize outreach to organizations and groups that are pivotal in the formation of public opinion, such as law enforcement and health profession groups.

DETERMINING IVHS PAYOFF

Mr. Carr. Your research plan indicates that NHTSA is most interested in allocating its IVHS research dollars to innovations with high potential safety benefits that are unlikely to be developed commercially due to poor market incentives. How will you determine where the payoff is greatest for NHTSA's involvement?

[The information follows:]

The agency's ongoing crash causal analysis will identify targets of opportunity for collision avoidance systems. This, coupled with an assessment of existing IVHS technologies and industry efforts at developing products, will provide preliminary identification of areas with potentially high safety payoff.

Agency involvement will be highest where there are clear safety benefits or where industry is already developing products. Where there is sufficient market incentive for product development to be already underway, the agency will work to develop performance guidelines to help ensure that the potential safety payoff from product development is realized. Where the number of collisions and/or injuries is large but the state-of-the-art and market incentives are insufficient to encourage product development, the agency will work to identify solution concepts, develop performance guidelines, and work with industry to develop products.

MARKET DEMAND FOR IVHS

Mr. Carr. In what areas is industry "ahead of the curve" in developing intelligent vehicle systems because of high market demand?

[The information follows:]

If "ahead of the curve" is defined to mean that effective collision avoidance products are commercially available, the answer is that industry is not ahead in any area. The willingness of industry to develop products is related to availability of performance specifications plus market demand and reliability and cost of system components. IVHS is still in its infancy, and substantial research and development will be necessary before proven collision avoidance systems will be available. Near-term availability appears to be most likely for products addressing the following collision types: rear-end, backing, and lane change/merge. The NHTSA IVHS program is giving priority to these areas in order to provide guidance and assistance to industry to ensure expeditious development and accelerated deployment.

PUBLIC-PRIVATE IVHS COLLABORATION

Mr. Carr. The IVHS America strategic plan recommends joint private-public section efforts on IVHS safety-oriented research and development. What practical problems do you see to implementing such collaborative efforts?

[The information follows:]

Working with the industry to facilitate development and early deployment of collision avoidance products is the foundation of NHTSA's strategic IVHS plan. The agency expects to publish this month a solicitation which invites industrial partners to work with NHTSA through cooperative agreements to realize this goal. Another effort to produce new concepts and innovative products that will accelerate the development and implementation of IVHS safety systems for vehicles is the IVHS-IDEA program. NHTSA is a co-funder of this program which is being administered through the Transportation Research Board. Improved safety by reducing fatalities and injuries resulting from motor vehicle crashes is the primary area of interest.

However, there is a key distinction between vehicle-based safety systems and roadway-based systems. Motor vehicles are purchased by private consumers, thus making this a very competitive industry. Highway systems, on the other hand, are purchased by governmental bodies using government-generated specifications. The competitiveness of the automotive industry makes it very difficult for companies to work together in areas where competitive advantage may be compromised. On the other hand, it is difficult for government to work with only one manufacturer where resulting specifications will impact all manufacturers. Another area of difficulty is reaching agreement on risk management and responsibility for liability resolution. In a more general way, involvement of the Federal Government almost always brings with it cumbersome and time-consuming contract and privacy negotiations.

MANUFACTURER IVHS AGREEMENTS

Mr. Carr. How many and what types of cooperative agreements have you signed with car manufacturers to work on the safety aspects of IVHS?

[The information follows:]

NHTSA has not entered into any cooperative agreements at this time. However, a solicitation which invites industry participation in seeking ways to foster development and deployment of collision avoidance systems should be published during the month of May. This announcement is directed toward manufacturers and suppliers of IVHS collision avoidance products applicable to motor vehicles. It is not limited to motor vehicle manufacturers, however, it is constructed in a way that should encourage their participation.

IVHS CRASH AVOIDANCE

Mr. Carr. NHTSA is currently engaged in assessing the general state of technology for crash avoidance. What can you tell us about some of the most promising IVHS crash avoidance technologies?

[The information follows:]

The assessment of IVHS crash avoidance technologies is an integral task of NHTSA's performance specification development contracts which will be awarded beginning in May 1993. Today in the United States, prototypes, and, in some cases, commercial products exist to provide warnings to drivers to assist them in avoiding rear-end, backing, merging, and lane-changing crashes. In the area of side blind-spot detection, for example, 13 different systems have been identified as being currently available in the aftermarket or as prototypes. These systems are based on microwave/millimeter wave radar, ultrasonic, or fiberoptics technology. Research and development work is underway to address the drowsy driver problem and night vision enhancement. Development work in Europe and Japan addresses these technologies and additional ones.

IVHS PROOF OF CONCEPT

Mr. Carr. NHTSA's appropriation for IVHS has increased dramatically in recent years from $2.25 million in fiscal year 1991 to $7.1 million in fiscal year 1993. Your research plan indicates that about 65 percent of these will be devoted to "Demonstrating Proof of Concept". Tell us what this means and why such a large portion of your IVHS dollars will be used this way?

[The information follows:]

A key responsibility of NHTSA is to demonstrate that advanced technology can practicably enhance the crash avoidance performance of motor vehicles. "Demonstrating proof of concept" is the process whereby solution concepts for specific collision avoidance problems are identified followed by demonstration of technical feasibility, operational practicality, and cost effectiveness. The development of performance guidelines for crash avoidance technologies, which will serve as the basis for evaluating safety impact and as product design targets for industry, is just beginning. The application of IVHS technologies to the science of collision avoidance is in its infancy and therefore a large portion of agency resources are being devoted to this aspect of the development of problem solutions. In later stages of the IVHS program, fewer resources will be devoted to proof of concept and more will be devoted to facilitating deployment. The conduct of in-service field evaluations in conjunction with industry to assess performance, reliability, maintainability, driver acceptance, and costs will validate safety specifications under real-world operating conditions and thus facilitate the deployment of marketable systems.

IVHS IMPACT ON DRIVERS

Mr. CARR. Does the IVHS research funded by NHTSA include funds for assessing motorist behavior problems associated with using high-tech devices in vehicles, i.e. acceptance of on-board computers by truck drivers; information overload with older drivers, etc.?

[The information follows:]

The ultimate success of IVHS systems will depend upon the match between the technology and the limitations and capabilities of the drivers who must use this technology. Therefore, a critical component of the collision avoidance program is the assessment of driver capabilities, as well as work on creatively using driver capabilities in an optimum way to avoid collisions. The agency currently has projects which are addressing driver workload, drowsy drivers, driver visibility requirements, the interaction of drivers with in-vehicle displays, and the human factors considerations of in-vehicle crash avoidance warning systems. The driver workload project is initially focusing on the drivers of heavy trucks. In addition to these projects, each performance specification project includes a task for determining the best way of eliciting necessary collision avoidance action from the driver. In the near future, projects will be initiated to address the needs of older drivers and to develop a better understanding of how drivers use motion and other cues which most influence a driver's selection of control responses and the relationship of these cues to safety.

IVHS: NHTSA-FHWA COORDINATION

Mr. CARR. How will your IVHS research and development efforts be integrated with those of the FHWA so that there is coordination of effort?

[The information follows:]

Within the Department, NHTSA is one of five key organizations involved in the IVHS program. These organizations work cooperatively to implement the broad IVHS goals. NHTSA's continuing responsibility is to provide the critical vehicle-related safety focus for DOT's IVHS program. Each organization is responsible for statutorily directed elements of transportation and combines this tradition with the new challenges of providing leadership of the national IVHS program. The recently completed IVHS Strategic Plan is an example of this cooperative implementation of the IVHS program. Within DOT, coordination of the IVHS program is carried out through the IVHS Working Group and the Coordinating Group. Since many of NHTSA's vehicle and system safety projects are critical to the success of FHWA's operational tests and the automated highway system initiative, there exists close cooperation between NHTSA and FHWA on projects of mutual interest. FHWA is providing some of the funding to support these projects.

USE OF FHWA IVHS FUNDS

Mr. CARR. According to your justifications, the President's fiscal year 1994 budget requests $9 million for NHTSA-related IVHS activities in the FHWA account. What is your plan for utilizing these funds?

[The information follows:]

The additional $9 million funding in FY 1994 is required to support three elements of the NHTSA program. It will provide needed outyear funding for existing contracts to develop collision avoidance performance specifications. It will support an extensive test program needed to ensure the appropriateness and practicability of the emerging performance specifications for crash avoidance countermeasures ($3.5 million). The funding will support the evaluation of an operational test of communication systems for automatically summoning EMS response following a crash, and for providing reliable data on crash location ($3 million). The third area of support is for the ISTEA/1991 mandated demonstration of an automated highway and vehicle prototype system by FY 1997. The agency's crash avoidance projects already planned for FY 1992 and FY 1993 support this project. In FY 1994, this project will reach the stage of identifying, acquiring and extensively testing the reliability, safety, and "user friendliness" of the systems components and subsystems for which the agency will be primarily responsible. The success in delivering improved safety will depend on matching technology to capabilities and limitations of drivers who must use the developed systems. The agency also will continue to participate in the safety evaluation of FHWA operational tests which are planned for initiation in FY 1994 ($2.5 million).

CONSOLIDATION OF NHTSA–FHWA IVHS FUNDS

Mr. Carr. What would be the advantages and disadvantages of consolidating funding for NHTSA's IVHS program under one agency's budget?

[The information follows:]

If all of NHTSA's IVHS funding was contained in the NHTSA budget, all participants in the budget process, both within the Executive Branch and Congress, could consider the IVHS request in the context of other agency activities. The only disadvantage of this approach is the Congress will have to review more than one IVHS budget request.

If all of NHTSA's IVHS funding was contained in the FHWA budget, Congress could consider all departmental IVHS activities as a package. The major disadvantage is that NHTSA may experience great difficulty obtaining support for those projects that are not of mutual interest to both agencies.

NADS CONTRIBUTION TO IVHS

Mr. Carr. How will the development of the National Advanced Driver Simulator (NADS) contribute to your IVHS program?

[The information follows:]

The NADS will contribute significantly to NHTSA's IVHS program. It will be the major tool used to address design and safety issues involving the relationship between human factors, the driver-vehicle interface, and advanced communication, information, and control technologies. The NADS provides the only means of safely and effectively evaluating the driver response in vehicles equipped with advanced IVHS technologies in crash avoidance maneuvers and/or crash imminent situations. The ability of the NADS to safely evaluate human response across the entire range of environmental, vehicle, and driver variables is key to ensuring the success of the driver-vehicle interface and therefore realizing the safety benefit potential of IVHS countermeasures. Actual prototype IVHS hardware concepts can be evaluated directly on the NADS using its "hardware in the loop" simulation capability, i.e., the countermeasures devices will be connected directly to (hard-wired) the simulator. This will allow design refinements and "fine tuning" to be made in a safe and cost-effective manner. It will also ensure that the hardware that has been developed is compatible with the human driver's capabilities.

Mr. Carr. To what extent is your success in moving forward with crash avoidance research under your IVHS program contingent on development of NADS?

[The information follows:]

The ultimate success of most collision avoidance IVHS devices will depend on successfully matching the operational characteristics of the devices with the capabilities and limitations of drivers. Critical IVHS-related human factors issues will include: driver performance (e.g., reaction time, response accuracy); warning system parameters (e.g., false alarm rate) and their influence on drivers behavior and acceptance of IVHS devices; driver mental workload and resulting performance in the IVHS environment; driver errors resulting from variation in IVHS device configuration; compensatory risktaking following the introduction of IVHS crash avoidance devices; performance of driver subpopulations (e.g., older drivers); and driver behavior associated with various automatic vehicle control systems and automated highways. NHTSA intends to address these issues by conducting a broad-based program of research that will: gather fundamental data on driver performance in conventional and IVHS settings; identify opportunities for reducing "driver error" through the application of vehicle-based high-technology; and develop guidelines for optimizing the driver-vehicle interface for both safety-related and mobility-related IVHS systems. Because it provides the only means of safely evaluating driver response in crash avoidance maneuvers and/or crash imminent situations, simulation is the most important research method relevant to IVHS collision avoidance research. If NADS is not constructed, NHTSA will be forced to carry out the needed experiments at other high-end driving simulators, such as the Daimler-Benz simulator located in Berlin, Germany, or the ones under construction by traffic safety organizations such as INRETS (Institute National de Recherche sur les Transports et Leur Securite) in France and the TAC (Transport Accident Commission) in Australia. Previously, NHTSA rented time on the Daimler-Benz simulator to conduct research projects related to the effects of prescription drugs on driver performance. However, these studies have been expensive and extremely difficult and cumbersome to carry out because of the remote location of the simulator, the requirement to work through the German Government, and the difficulty in scheduling time on this facility, which is in heavy demand by Daimler-Benz product development engineers.

NADS STATUS AND FUNDING

Mr. CARR. Last year, Congress provided $5.0 million for the National Advanced Driving Simulator (NADS). Please update us on the project status, and on how you are using these funds.

How much of the $5.0 million provided for fiscal year 1993 has been obligated to date?

[The information follows:]

The National Advanced Driving Simulator (NADS) project is on schedule. The RFP for the design concepts studies is now available for industry comments and the agency expects to award a contract. The $5 million will be applied to the design and construction of the NADS.

To date, $1,479,758.00 of the funding available for FY 1993 has been obligated.

NADS DESIGN CONTRACT

Mr. CARR. The Acquisition Plan for NADS indicates that the design competition for NADS will begin September 1993 and that design work will be completed by the end of calender year 1994. Are you still on schedule and when do you expect to award the simulator design contract?

[The information follows:]

We expect the simulator design concepts will be awarded in October 1993 and be completed by the end of FY 1994.

NADS COST ESTIMATION

Mr. CARR. You are requesting $2.0 million in fiscal year 1994 for the purchase and/or design and fabrication of the major NADS subsystems, that is, the motion system, computer generated image and audio systems and the simulation computers and software. These funds, in essence, will begin the initial construction of NADS. How did you determine that you needed $2 million for the next phase of the project, as opposed to some other figure, say $1 million?

[The information follows:]

The $2 million request was based on the total estimated need for $13.1 million to fund NADS in FY 1994. The total consists of the anticipated carry-over, non-DOT contributions and the $2 million requested.

NADS CONSTRUCTION COST

Mr. CARR. The Cooperative Agreement on NADS signed in March of this year by NHTSA and the University of Iowa indicates that a construction contract award is anticipated to be made between November 1994 and February 1995, that is in fiscal year 1995. If that is your current schedule, why is it necessary to appropriate $2 million in fiscal year 1994?

[The information follows:]

The agency is doing everything that it can to accelerate the NADS development. The RFP for the NADS design concepts studies, which is currently available for industry comment, requests the industry's views on how the design/construction of NADS can be accelerated. The optimal schedule calls for the simulator design concepts studies to be completed and the award of the construction contract before the end of FY 1994. Therefore, the $2 million will be needed to fund the construction contract.

Mr. CARR. As you know, the $32 million cost estimate for the total NADS project is now over 4 years old. When will you be able to provide an updated cost estimate for this project?

[The information follows:]

At the conclusion of the design concepts studies, the agency will be in a position to provide a much better estimate of the NADS cost. This estimate will provide an update of costs to 1993 and will, for the first time, submit the costs of the major simulator subsystems to competition.

Mr. CARR. Do you believe that it is wise to provide $2 million to begin construction when we will not have a firm estimate of total project costs until after the detailed design work has been done?

[The information follows:]

The $2 million requested is needed to initiate the NADS construction contract, but represents only a small increment in the total amount of funds that will be necessary to complete the NADS. Since the Department cannot award the NADS construction contract until it has reported to Congress that it has secured non-DOT funding, the Congress will have an opportunity to see the final estimate prior to the commitment of the $2 million.

IVHS INVESTMENT RETURN

Mr. CARR. You will hear me talking a great deal this year about cost/benefit analysis and return on investment. Can you tell me what you believe the federal government's return on investment will be if we invest $32 million in this project?

[The information follows:]

NHTSA expects a substantial return on investment for the NADS in terms of significant reductions in the number of crashes and the resulting fatalities, injuries, and costs that result. These reductions will result from the incorporation of IVHS systems on motor vehicles to assist drivers in avoiding crashes. The NADS will be a critical tool for addressing design and safety issues involving the relationship among human factors, the driver-vehicle interface, and advanced communication, information, and control technologies. The NADS provides the means of safely and effectively evaluating driver response in crash avoidance maneuvers and/or crash imminent situations. The ability of the NADS to safely evaluate human response across the entire range of environmental, vehicle, and driver variables is key to ensuring the success of the driver-vehicle interface and therefore realizing the safety benefit potential of IVHS collision avoidance products/systems.

NADS: UNIVERSITY OF IOWA PLEDGE

Mr. **Carr**. Congress has stipulated that construction for this project shall not go forward until financial commitments for $11 million from non-DOT sources toward project costs are obtained. What is the status of the $5.25 million in project costs that the University of Iowa had pledged?

[The information follows:]

The State of Iowa and the University of Iowa have committed $5.25 million as their contribution to cost sharing the NADS. The NHTSA/University of Iowa Cooperative Agreement formalizes this commitment. Section III. B.5. requires the University of Iowa to deliver to NHTSA "at no cost to the NADS project, the Iowa Real-Time Recursive Dynamics Software for use in connection with the NADS development and acquisition." This contribution is valued at $2 million. Section III. B.9. states that Iowa will "Provide a contribution of $3.25 million towards the (NADS) facility building." These two clauses in the cooperative agreement commit the Iowa pledge of $5.25 million to the NADS project.

Mr. **Carr**. What commitments have been obtained beyond the initial $5.25 million pledged by the University of Iowa?

[The information follows:]

To date, no commitments beyond that initial $5.25 million pledged by the University of Iowa have been obtained. Under the terms of the cooperative agreement between NHTSA and the University of Iowa, which was signed in mid-March 1993, the University is responsible for securing the balance of cost sharing to support the NADS development. The fund raising effort for the remaining $5.75 million should begin shortly.

NADS: MANUFACTURER PARTICIPATION

Mr. **Carr**. Many of the domestic auto manufacturers have not been especially interested in becoming NADS users, citing location of the facility, the high estimated operating costs, and concerns about protecting proprietary information. Has this situation changed at all?

[The information follows:]

Based on discussions and papers presented at government/industry meetings, it is clear that the domestic automotive industry believes in simulation research for both safety and product development. They have, and continue to utilize, their own simulation facilities (e.g., GM/Hughes) and those around the world (e.g., VTI in Sweden and Daimler-Benz in Germany). The goal of the NADS design concepts studies is to get the hourly operating cost in the range of $1,000 per hour, a cost which the industry indicated they would be willing to spend to carry out safety/vehicle research. To address the industry's concern for protecting proprietary information, NHTSA has identified computer and facility security as a major design requirement of the NADS.

NADS USER FEES

Mr. **Carr**. The cooperative agreement developed between NHTSA and the University of Iowa provides that all use by NHTSA of the simulator will be "in accordance with the University's normal schedule of fees and other terms and conditions for such use." Since the federal government will be a primary user of the simulator, how will you ensure that user fees assessed by the University will be reasonable and not more than what is required to efficiently operate the facility?

[The information follows:]

Government research conducted on the NADS by the University of Iowa will be funded under the terms of the Cooperative Agreement through Cooperative Project

Orders issued by NHTSA. The Cooperative Agreement provides that: "Each Cooperative Project Order executed under authority of this Agreement will establish the extent of the obligation of Federal funds and payment provisions to reimburse Iowa for the costs of performance. Each Cooperative Project Order will provide for the reimbursement, without fee, of Iowa's total costs of performance, i.e., ". . . The allowable direct costs of performance, plus the allocable portion of the allowable indirect costs of the university, in accordance with Circular A-21, as revised."

NADS COOPERATIVE AGREEMENT

Mr. Carr. Please provide for the record a copy of the cooperative agreement pertaining to the national advanced driving simulator project.

[The information follows:]

UNITED STATES OF AMERICA
DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

COOPERATIVE AGREEMENT AWARD

NHTSA COOPERATIVE AGREEMENT NO.:	DTNH22-93-Y-07237
PROJECT TITLE:	National Advanced Driving Simulator Development and Research Facility Operations
GRANTEE:	University of Iowa Iowa City, Iowa
ESTIMATED NADS AND FACILITY BUILDING COST:	$32,000,000.00
ESTIMATED IOWA PROJECT ADMINISTRATION COST:	$ 1,000,000.00
ESTIMATED TOTAL PROJECT COST:	$33,000,000.00
TOTAL AMOUNT OF DOT FUNDING:	$22,000,000.00
TOTAL AMOUNT OF NON-DOT FUNDING	$11,000,000.00
COOPERATIVE AGREEMENT AWARD DATE:	MAR 19 1993
COOPERATIVE AGREEMENT COMPLETION DATE:	December 31, 2008

I. STATEMENT OF AUTHORITY

This Cooperative Agreement between the National Highway Traffic Safety Administration, hereinafter referred to as "NHTSA," and the University of Iowa, hereinafter referred to as "Iowa," or "the Grantee," is hereby entered into under the authority of the Highway Safety Act of 1966, as amended (23 U.S.C. Chapter 4), as well as the National Traffic and Motor Vehicle Safety Act of 1966, as amended (15 U.S.C. 1381, et. seq.). This Cooperative Agreement provides for the limited exchange of personnel, equipment, facilities and funds to achieve the following purposes.

II. STATEMENT OF BACKGROUND AND PURPOSE

On January 16, 1992, the Department of Transportation ("DOT") announced that it would develop a National Advanced Driving Simulator ("NADS") to be located at the University of Iowa in Iowa City. The NHTSA was designated by former Secretary Skinner to be the lead Agency for developing the NADS. The estimated cost of the NADS, including the building, is $32 million. It is anticipated that DOT will provide $21 million towards the facility costs, with $11 million to be provided by other non DOT sources. Two thirds of any costs for the facility in excess of $32 million will be provided by DOT with the remainder from non-DOT sources. However, payment of costs by DOT which result from the NADS building cost exceeding $3.5 million will be subject to the limitation stated in the penultimate sentence of Section III B, Item 9 of this Agreement. Cost to be paid to the University of Iowa under Cooperative Project Orders will be paid by NHTSA. Project administration cost to be incurred by Iowa will be reimbursed by NHTSA and will not be subject to the cost sharing arrangement described above.

The NADS mission is to provide a stand-alone, dedicated, state-of-the-art driving simulator that is committed to the performance of research on wheeled highway vehicles such as automobiles and trucks. As such, the NADS hardware and software design will be governed by, and optimized for, research applications that utilize this class of vehicle. The NADS will provide the Nation with a traffic safety research facility, utilizing cutting edge technology, which no single constituency could afford. Emerging technologies in mechanical systems dynamics and parallel computing, combined with high-speed computer graphics and motion base control technologies have sufficiently evolved to support a national research facility for man-in-the-loop, real-time vehicle driving simulation.

The NADS will support a national transportation research program to advance the state of the art in a broad range of traffic safety and motor vehicle technology areas. Among the most important of these are the following:

1. Highway traffic safety research
2. Driver-vehicle interaction and human factors research
3. Intelligent Vehicle Highway Systems (IVHS) technology development
4. Health and disability factors affecting safety and mobility
5. Motor vehicle design and development
6. Highway design and safety evaluation
7. Driver training research
8. Development of low cost training simulators

The NADS will be utilized by research organizations for applications that are beyond the capabilities of their own dedicated facilities. The user community of the NADS will consist of public and private sector organizations engaged in transportation research and development. This may include all Federal and State government agencies, public and private academic institutions, the automotive and related industrial sector, and private research organizations. The initial appropriations provided by Congress are sufficient to provide for the preliminary aspects of the development of the NADS. Future Congressional appropriations to complete the development of the NADS are dependent upon the extent of financial commitment provided by non-DOT sources.

Summary of Anticipated Project Expenditures and Funding Sources:

National Advanced Driving Simulator (NADS) Costs: (Feasibility Study Cost Estimate includes $1.5 million for vehicle dynamics subsystem models to be developed by Iowa) (Section III.B.8)		$28,500,000
Funding Sources:		
DOT/NHTSA	$21,000,000	
University of Iowa (in-kind contributed RTRD software)	$ 2,000,000	
Other Non-DOT Contributions	$ 5,500,000	
NADS Facility Design and Construction Costs: (Feasibility Study Cost Estimate)		$ 3,500,000
Funding Sources:		
State of Iowa	$ 3,250,000	
Other Non-DOT Contributions	$ 250,000	
University of Iowa Project Administration Costs: (Cooperative Project Orders)		$ 1,000,000

Funding Source:	
DOT/NHTSA	$ 1,000,000

III. SCOPE OF WORK

For a period as hereinafter set forth, NHTSA and Iowa shall cooperatively furnish the necessary personnel, equipment and facilities, and otherwise perform all things necessary for or incident to the performance of work (the accomplishment of objectives) as set forth below.

Efforts by the respective parties to this Agreement shall be performed in two separate Phases, as follows:

Design Competition and System Development Phase -- involves the development and acquisition of the NADS which begins with the initiation and development of the NADS acquisition solicitation and ends with the completion of successful acceptance testing and installation of the integrated simulator in the building constructed for operations.

During performance of this Phase, by this Agreement, the parties hereby establish a Project Management Team directed by the NHTSA Associate Administrator for Research and Development, who shall have final decision-making authority, and consisting of the NHTSA NADS Project Officer, Iowa Associate Vice-President for Research (or his designee), and Iowa NADS Project Director. This Management Team shall be responsible for ensuring the effective participation of Iowa personnel in, and the coordination of, all project management activities conducted during this Phase (hereinafter "Project Management Tasks"), including the following:

- The implementation of a program management strategy to minimize the potential for project cost overruns applicable to the NADS and the facility building, including periodic conferences to evaluate the progress of the project and the adequacy of cost containment measures.

- The efforts to secure the balance of cost sharing commitments/contributions required from non-DOT sources to support the NADS development, including the exchange of periodic status reports on progress.

- The identification of potential Cooperative Project Orders to provide for the performance of specific scientific or engineering tasks, as described below, which are viewed as necessary and appropriate by either party to ensure the success of the NADS. Such Cooperative Project Orders will address discrete elements within the overall NADS Design and System Development Phase, and define the respective responsibilities of NHTSA and Iowa.

- The exchange of information and technical assistance from Government sources, and experiences gained by Iowa in the operation of the Iowa Driving Simulator (IDS), that are relevant for consideration in the development of the NADS.

- The exchange of information involving any problems in implementing or making progress on any projects performed under this Agreement, and recommended strategies or revisions to permit successful performance.

- The critical review and finalization of the specifications for the NADS acquisition solicitation.

- The evaluation of design proposals received in response to the NADS acquisition solicitation, the identification of relevant questions requiring discussions, and the summation of strengths and weaknesses among all offerors competing for the design competition in support of the award selection of those offerors submitting the most advantageous proposals.

- The NADS System Design Review, the Preliminary Design Review, and all "in-process" reviews at the design contractors' facilities.

- The critical review of NADS integrated design concepts submitted by the competing design contractors. The evaluation of the competing design proposals, the identification of relevant questions requiring discussions, and the summation of strengths and weaknesses in support of the selection of that contractor submitting the most advantageous design concept to proceed with system development.

- The system development reviews at the contractor's facility involving fabrication and component testing, subsystem integration testing, and in-plant acceptance testing.

- The review of plans for the design and construction of the NADS facility building at Iowa to ensure that structural and operational requirements stipulated by the NADS system development contractor are properly integrated and that the schedules are synchronous.

- The review of plans for the full system integration testing to provide for installation certification at the University of Iowa.

Because of the procurement sensitivity of some of these activities and the nature of the information being disclosed by NHTSA to the Iowa members of the Management Team, prior to any such disclosure NHTSA's Contracting Officer shall ensure that the requisite Procurement Integrity Certifications have been signed by the Iowa team members, as well as any other participating Iowa personnel, and that access to source selection information is authorized. In addition, NHTSA shall make an affirmative determination that there are no conflicts of interest between Iowa and any of the potential NADS contractors or subcontractors.

The source selection activities of the Management Team, and any other participating Iowa personnel, shall be conducted consistent with the Transportation Acquisition Manual ("TAM") Subchapter 1215.6--Source Selection.

In addition, during performance of this Design Competition and System Development Phase, it will be necessary to provide for the performance of specific engineering and scientific tasks (hereinafter "Technical Tasks") to support activities involving the development and acquisition of the NADS. Such tasks will be accomplished through Cooperative Project Orders which are to be established by mutual consent of the parties and entered into under the authority of this Agreement. The general scope of such activities will be designed to promote reduced developmental and operational risks of the NADS and may include, but are not limited to:

- o The preparation of documentation for Iowa software that goes beyond system-level description and/or functional documentation of the type that Iowa normally prepares, but that is deemed necessary for use by those responding to the NADS acquisition solicitation. Where appropriate, these Cooperative Project Orders may recognize and provide reimbursement for costs incurred by Iowa prior to the effective date of the Cooperative Project Order.

- o The critical review and finalization of functional specifications for the NADS acquisition solicitation.

- o The development of vehicle dynamics subsystem models for passenger vehicles and heavy trucks.

- o The evaluation of proposals received in response to the NADS acquisition solicitation.

- o Participation in various contractor reviews, including system design review, in-process reviews, preliminary design review, critical design review, and test readiness review.

- o Providing assistance to NHTSA's design contractors in their evaluation of contributed Iowa software.

- o The utilization of the Iowa Driving Simulator ("IDS") to investigate and resolve technical issues associated with the NADS development.

Operational Phase -- involves the operations of the NADS facility which begins with the initiation of operations following installation of the NADS and ends with the scheduled expiration date of this Agreement.

Conduct of the Project -- The parties shall carry out the project on a cooperative, cost-shared basis.

A. **Specifically, NHTSA will:**

During Design Competition and System Development Phase:

1. Provide the NADS Project Officer, as the designated Contracting Officer's Technical Representative ("COTR"), to participate in the planning and management of this Agreement and to coordinate activities between NHTSA and Iowa.

2. Issue Cooperative Project Orders to Iowa for the NADS Project Management tasks and Technical tasks, as defined herein. NHTSA will provide funding to support Iowa's performance of all of these tasks. However, NHTSA will not provide funding involving management and oversight functions that are for the sole purpose of safeguarding Iowa's interests in the NADS project.

   Provide Iowa with descriptions of proposed Cooperative Project Orders; plan and refine in cooperation with Iowa's NADS Director, a detailed project description, including estimated performance period and schedule of reporting requirements/deliverables, and, as appropriate, the budget for the project. As appropriate, NHTSA's COTR shall coordinate project implementation considerations within NHTSA. Provide reimbursement to Iowa based upon the terms and conditions of each Cooperative Project Order performed under this Agreement.

3. **Require NHTSA's design contractors to use Iowa's Real-Time Recursive Dynamics software**, to be provided by Iowa at no cost to the NADS project, in the NADS development. At any time that there is clear and convincing evidence to the Project Management Team that the use of this software in the NADS is not feasible, based on technical or cost factors, NHTSA and the University of Iowa will work together to develop an alternate course of action.

Require NHTSA's design contractors to conduct a thorough and objective evaluation of various core software modules, to be provided by Iowa at no cost to the NADS project, that have potential application in the NADS. At the conclusion of the design phase of the project, the contractors will be required to issue a report that presents in detail the technical aspects of this evaluation as well as the cost and schedule impact of (a) the use, and (b) the non-use, of the Iowa core software modules in the follow-on NADS development. Iowa will review this report and provide comments.

4. Reimburse Iowa for costs associated with answering questions about the Iowa software or documentation and assisting the design contractors in making the Iowa software modules operational at the contractor's computer facility, in preparation for their evaluation. However, NHTSA will not reimburse Iowa for costs associated with revisions or further development work on the core software.

5. Where appropriate, based upon the information being disclosed, or the Cooperative Project Order being performed by Iowa personnel, the NHTSA Contracting Officer shall ensure that the requisite Procurement Integrity Certifications have been signed by the responsible Iowa personnel.

6. Conduct experimental validation of the Iowa Real-Time Recursive Dynamics software. This validation will be performed by NHTSA personnel at the Vehicle Research and Test Center ("VRTC"), in East Liberty, Ohio. NHTSA will work closely with Iowa in resolving problems with the software code which may be identified in this validation process.

7. Have primary responsibility for the conduct of the acquisition of the NADS.

8. Establish financial accounts within which funds transferred from other DOT Operating Administrations and Federal Agencies, as well as contributions received from non-Federal entities in support of the NADS development, will be accumulated.

9. Initiate actions through the Federal budget process to maintain DOT's intent to provide two-thirds of the funding required for the NADS.

10. Provide liaison with other government/private agencies as appropriate.

11. Stimulate the exchange of ideas and information among recipients of related projects through periodic meetings.

During Operational Phase:

1. Provide, through the NADS system development contractor and at no cost to Iowa, one year of maintenance, spare parts, and training support to Iowa, and at the conclusion of this period, the final documentation relating to the operation, maintenance, spare parts and training.

2. Organize and designate the Chair of the NADS Government/Industry Advisory Board which will advise Iowa on operational aspects of the facility. In cooperation with Iowa, develop the charter for this Board's activities and responsibilities.

3. Monitor the operation of the NADS through periodic site visits.

4. Evaluate any plans that Iowa develops for upgrades of or enhancements to the NADS.

B. **Specifically, Iowa will:**

During Design Competition and System Development Phase:

1. Designate the Iowa NADS Director who will manage all Cooperative Project Orders performed under this Agreement.

2. Based upon descriptions of proposed Cooperative Project Orders provided by NHTSA, prepare proposals which detail the accomplishment of the Management Tasks and Technical Tasks to be carried out under such Project Orders. These proposals shall provide a description of the technical and management approach to be used to accomplish the tasks, along with an estimated performance period and schedule of milestones, reporting requirements/deliverables, and budget for the reimbursement of Iowa's costs of performing the Orders. Upon formal execution of a Cooperative Project Order, perform tasks specified in the Order. As appropriate, the Iowa NADS Director shall coordinate Project Order

implementation considerations and work performance within Iowa.

3. Upon request of the NHTSA Contracting Officer, the Iowa NADS Director will assist in obtaining the requisite Procurement Integrity Certifications signed by the responsible Iowa personnel.

4. Make the IDS available to NHTSA, on a priority basis, in accordance with the University's normal schedule of fees and other terms and conditions for such use, to support NADS development and for projects with NHTSA offices to develop and refine advanced crash avoidance, human factors, IVHS, and experimental testing technology that are required to fully exploit NADS capabilities when it is completed.

5. Deliver to NHTSA, at no cost to the NADS project, the Iowa Real-Time Recursive Dynamics software for use in connection with the NADS development and acquisition. Under an appropriate Cooperative Project Order prepare and deliver to NHTSA complete documentation for this software. Iowa represents to NHTSA that the Real-Time Recursive Dynamics software, operates in real time on a suitable parallel computing platform, is based on mathematically correct formulations, is accurately coded, and has been thoroughly tested. At no cost to the NADS project, Iowa will correct any significant error in the software that is identified in the validation to be conducted by VRTC, using mechanism and/or machine models for which solutions are known or can be accurately predicted. In addition, at no cost to the NADS project, Iowa will demonstrate that the Real-Time Recursive Dynamics software runs in real time on its Alliant FX/2800 computer for a passenger car and tractor-semitrailer truck model that are typical of anticipated NADS applications, executing an on road maneuver. Thereafter, consultation activities by Iowa with either of NHTSA's design contractors or with NHTSA's development contractor, including any work relating to porting of the software for different computing platforms and/or integration of the software with other NADS subsystems, shall be covered by Cooperative Project Orders that provide reimbursement to Iowa.

6. Deliver to NHTSA, at no cost to the NADS project, various core software modules, along with a system-level description and functional documentation, to

be evaluated by the design contractors for possible use in the NADS. The software shall be delivered by Iowa in two stages. The initial delivery shall occur three and one-half months after the award of the NADS design contracts. The remaining software, along with a system level description and functional documentation, as well as responses to any questions from the design contractors and a plan for future developments, shall be delivered six and one-half months after award of the design contracts. Iowa shall also provide NHTSA with a system level description of these software modules to be included in the NHTSA Request for Proposals ("RFP").

7. Subsequent to the design phase, in which the Iowa software is evaluated, Iowa will serve as NHTSA's primary advisor for the NADS software development performed by NHTSA's development contractor.

8. Develop vehicle dynamics subsystem models for passenger vehicles and heavy trucks under Cooperative Project Orders.

9. Have primary responsibility for the design and construction of the NADS facility building on property owned and provided, at no cost, by Iowa. Provide a contribution of $3.25 million towards the facility building. The design and construction shall be in accordance with State law and Iowa State Board of Regents capital procedures and comply with any applicable Federal laws. The NADS facility building shall be designed to meet the minimum functional requirements needed to support operation of the NADS, including reasonably anticipated future upgrades. Iowa shall be solely responsible for all costs incurred in connection with the building design and construction that result from a decision to exceed these minimum requirements. Iowa agrees to consult with NHTSA throughout the design and construction phase of the NADS facility building.

10. Coordinate actions with NHTSA to secure the balance of cost sharing contributions required from non-DOT sources to support the NADS development. Iowa's actions to secure this cost-sharing balance, estimated to total $5.75 million, do not convey any assumption of financial liability for securing such an amount upon the State of Iowa, nor the University of Iowa. Costs incurred by Iowa in

conducting this activity shall be reimbursed by NHTSA.

11. Any contributions received from non-DOT sources in support of the NADS simulator development will not be accumulated by Iowa, but will be forwarded directly to NHTSA.

12. Develop a financial management strategy for NADS that includes a users fee schedule which will recover Operational Phase costs and which is consistent with established Iowa policy.

During Operational Phase:

1. Perform all tasks and meet all obligations as specified in its proposal, dated 1/9/91, entitled "National Advanced Driving Simulator." Pages 1 through 73, including all appendices, of this proposal are incorporated herein and made a part of this Agreement. Any deviations from the objectives or effort specified in this proposal shall be made by mutual agreement through a written amendment.

2. Have responsibility for operating the NADS facility on a self-sustaining basis.

3. Plan and implement a systematic program of NADS upgrades, utilizing funds for this purpose in accordance with Iowa's proposal. Provided, however, that if NHTSA assumes possession of the NADS, NHTSA agrees to reimburse Iowa for all upgrades in accordance with the provisions of Section VII., paragraph G of this Agreement.

4. Provide, at NHTSA's election, up to two-thirds of the NADS occupancy time on a priority basis, for research projects to be conducted for the U.S. Department of Transportation. All use by NHTSA shall be in accordance with the University's normal schedule of fees and other terms and conditions for such use. Iowa shall retain one-sixth of the NADS occupancy time on a priority basis.

5. To the extent permitted by Iowa law, indemnify the federal Government and hold it harmless against claims for injury to persons or damage to property belonging to Iowa or others arising from Iowa's wrongful acts or omissions or negligence in the use of the NADS.

6. Maintain adequate insurance coverage through commercial carriers or through self-insurance program, to reimburse the federal Government for any property damage to the NADS resulting from wrongful acts or omissions or negligence by Iowa or others in the possession or use of the system.

C. **Performance Milestones:**

The following is a list of all milestones and their projected dates which are considered to be significant in the NADS Project:

MILESTONE	DATE
1. TSARC review and approval of NADS Acquisition Plan and Source Selection Plan	1/12/93
2. Iowa provides input into draft NADS solicitation describing salient features of Iowa's Software Package and review comments to NHTSA on draft NADS solicitation	2/15/93
3. NHTSA integrates Iowa's documentation and comments into draft NADS solicitation; NHTSA issues draft NADS solicitation for industry comment	3/1/93
4. NHTSA receives industry comments on draft NADS solicitation	4/15/93
5. NHTSA/Iowa evaluate industry comments on draft NADS solicitation; NHTSA revises NADS solicitation	4/16/93- 5/30/93
6. NHTSA issues NADS solicitation requesting proposals for competitive design contracts	6/1/93
7. NHTSA receives proposals	7/15/93
8. NHTSA/Iowa evaluate proposals; prepare discussion questions; NHTSA conducts discussions and selects offerors for award	7/16/93- 10/14/93
9. NHTSA awards NADS competitive design contracts	10/15/93
10. Post-Award Conference (4 days in Washington, D.C.) (2 days for each design contractor)	10/16/93- 11/1/93

MILESTONE	DATE
11. Iowa provides software and documentation through NHTSA for use by design contractors to initiate trade-off studies	2/1/94
12. NHTSA/Iowa attend In-Process Reviews at both design contractors' facilities (1 day at each location)	2/1/94-2/5/94
13. Design contractors submit any questions regarding the Iowa software and documentation to NHTSA	3/1/94
14. Iowa responds to contractors' questions and provides additional software and documentation through NHTSA for use by design contractors to complete trade-off studies	5/1/94
15. NHTSA/Iowa attend System Design Review at both design contractors' facilities (2 days at each location)	5/1/94-5/5/94
16. NHTSA/Iowa attend In-process Reviews at both design contractors' facilities (1 day at each location)	8/1/94
17. NHTSA/Iowa attend Preliminary Design Review at both design contractors' facilities (3 days at each location)	10/15/94-11/1/94
18. Design Contractors deliver design concepts, results of trade-off studies, including the Iowa software evaluation, and estimated pricing	11/1/94
19. NHTSA acceptance of Contractor deliverables	12/1/94
20. NHTSA obtains approval by the Transportation Acquisition Review Council (TSARC) to proceed with NADS system development	1/1/95
21. NHTSA/Iowa evaluate proposed design concepts and estimated costs; prepare discussion questions; NHTSA conducts discussions; results of evaluation and discussions provided to the designated DOT Source Selection Official (SSO); DOT SSO selects contractor for NADS system development	11/1/94-2/1/95
22. Post-award conference (2 days in Washington, D.C.)	2/1/95-2/5/95

MILESTONE	DATE
23. Iowa submits to NHTSA a plan for obtaining the building design and estimated construction cost for the NADS facility	7/1/95
24. NHTSA/Iowa complete Critical Design Review at system development contractor's facility (5 days)	2/1/96
25. Iowa provides completed NADS building design to NHTSA for review by NHTSA and NADS system development contractor	7/1/96
26. Iowa initiates construction of the NADS facility	11/15/96
27. NHTSA/Iowa attend Test Readiness Review at system development contractor facility (3 days)	7/1/97
28. NHTSA/Iowa attend In-Plant Test and Evaluation Review at system development contractor facility (3 days)	10/1/97
29. Iowa completes construction of the NADS facility	11/15/97
30. NHTSA/Iowa attend Installation Certification Review at the Iowa NADS facility (2 days)	2/15/98
31. NHTSA accepts NADS from system development contractor; provides to Iowa as Government furnished property	3/15/98
32. End of Operational Phase	12/31/08

D. Reporting Requirements

It is envisioned that communications between members of the Project Management Team to coordinate the NADS development activities will be frequent. Conferences will be scheduled on an as-needed basis, and may be by telephone, or in person. It is recognized that periodically the need for written documentation may be required by either party, in which case it shall be requested of the other.

It is envisioned that communications between the NHTSA COTR and the Iowa NADS Director to coordinate the NADS development activities and exchange progress information will be extensive and primarily by telephone or in person. It is recognized that periodically the need for written documentation may be required by either party, in which case it shall be requested of the other.

Formal reporting requirements for progress, draft, or final documentation involving work performed under Cooperative Project Orders shall be specified in the individual Order.

IV. PERIOD OF PERFORMANCE

The period of performance of this Cooperative Agreement is from the Cooperative Agreement Award Date as shown on the face page through a scheduled completion date of December 31, 2008, unless otherwise modified by mutual consent of both parties.

V. FINANCIAL ADMINISTRATION

A. No obligation of Federal or Iowa funds is created as a result of this Agreement.

B. Each Cooperative Project Order executed under authority of this Agreement will establish the extent of the obligation of Federal funds and the payment provisions to reimburse Iowa for the costs of performance. Each Cooperative Project Order will provide for the reimbursement, without fee, of Iowa's total costs of performance, i.e., the allowable direct costs of performance, plus the allocable portion of the allowable indirect costs of the University, in accordance with OMB Circular A-21, as revised.

VI. PROJECT OFFICERS

A. NHTSA: NADS Project Officer ("COTR")

Keith Brewer
NADS Project Officer
National Highway Traffic Safety Administration
(NRD-51) Room 6220
400 7th Street, S.W.
Washington, D.C. 20590

(202) 366-5671

B. Iowa: Iowa NADS Director

Edward J. Haug
Director, Center for Computer Aided Design
208 E.R.F.
The University of Iowa
Iowa City, Iowa 52242

(319) 335 5726

VII. SPECIAL PROVISIONS

A. Any special provisions considered to be unique to an individual Cooperative Project Order shall be stated in the project description.

B. Cost containment is to be achieved through the development of adequate contract specifications which define the minimum requirements, the identification of an effective acquisition strategy and selection process, and proper monitoring of contractor performance to ensure cost efficiencies. It is recognized that NHTSA will be primarily responsible for the acquisition of the NADS and Iowa will be primarily responsible for the acquisition of the facility building.

C. In the event that the remaining cost sharing commitments/contributions from non-DOT sources, estimated to total $5.75 million, cannot be secured, NHTSA may elect not to make the award to that contractor selected to perform the NADS system development. NHTSA and Iowa agree to work together to secure these additional funds, or to develop strategies or revisions to the project to permit successful performance.

In the event that the cost of the NADS and the facility building exceeds $32 million, the DOT will provide two-thirds of the necessary additional funding, with the remainder to be provided by other non-DOT sources. However, payment of costs by DOT which result from the NADS building cost exceeding $3.5 million will be subject to the limitation stated in the penultimate sentence of Section III B, Item 9 of this Agreement. NHTSA and Iowa agree to work together to develop strategies to secure these additional funds.

If such efforts are not successful, and the project cannot be successfully completed, NHTSA may elect not to proceed further with the project and to terminate this Agreement. In the event of such termination, NHTSA shall be responsible for the final disposition of contributions received by it directly, or indirectly through Iowa, from other sources, to the extent they have not been expended, consistent with the conditions under which the contributions were provided.

Iowa's recovery of costs from NHTSA as a result of such termination shall be limited to those costs determined to be reasonable, allowable, and allocable to the performance of Federally-funded Cooperative Project Orders issued under this Agreement in accordance with the applicable cost principles of OMB Circular A-21.

D. Rights in Data. The following provisions will survive the termination or expiration of this Agreement:

1. Iowa grants to NHTSA a non-exclusive, royalty-free license to use, in connection with the NADS, the Iowa Real-Time Recursive Dynamics software, as well as all other computer software developed by Iowa for use with the NADS without the use of DOT funds or developed by Iowa and actually used in connection with the NADS.

2. Subject to NHTSA's "restricted rights," Iowa owns, and shall remain the owner of, all right, title and interest in and to the Iowa Real-Time Recursive Dynamics software, as well as all other computer software and all data produced by Iowa in the performance of this Agreement without the use of DOT funds.

3. Subject to NHTSA's "limited rights," Iowa owns, and shall remain the owner of, all right, title and interest in and to all computer software and all data first produced by Iowa in the performance of this Agreement with the use of DOT funds.

4. NHTSA recognizes and agrees that Iowa may grant appropriate non-exclusive licenses to one or more NADS users to use the NADS for their own purposes and that under such a license the user may be granted, to the extent permitted under established Iowa policy, all right, title and interest in and to any and all data generated during such use. Accordingly, Iowa will not furnish to NHTSA or others any data generated for such users during the conduct of driving simulation research at any time. The term "data," as used elsewhere in this Agreement, does not include any such data generated for such users during the conduct of driving simulation research.

5. Iowa authorizes NHTSA to disclose and deliver the software, documentation and data which Iowa owns as identified in paragraphs 2 and 3 above, to others for use in connection with the NADS project. NHTSA shall provide that the disclosure and delivery of such software, documentation and data to others shall be made in accordance with a confidentiality and nondisclosure agreement that is acceptable to Iowa and NHTSA, with Iowa and NHTSA each having the right to bring an action(s) for any unauthorized use or disclosure.

6. As used in this Agreement, the terms "restricted rights," and "limited rights" shall have the same meaning as that set forth in the NHTSA General Provisions for Assistance Agreements (5/90).

E. At the conclusion of successful installation testing at the Iowa NADS facility, the completed NADS system will be provided to the University as Federally-owned non-expendable property, in accordance with the provisions of Attachment N of OMB Circular A-110. To fulfill its intended use, the NADS system is considered to be comprised of various hardware components, as well as NHTSA's rights in the Real-Time Recursive Dynamics software, operating system, applications software and stored data. The NADS system does not include the NADS facility building and associated land, which remain Iowa's property.

F. During the Operational Phase of the NADS project Iowa may develop or acquire, without the use of DOT funds, upgrades of or enhancements to the NADS system. Subject to NHTSA's restricted rights, Iowa shall own, and remain the owner of, all such upgrades of or enhancements to the NADS computer software, and the federal Government shall own, and remain the owner of, all such upgrades of or enhancements to the NADS system hardware.

G. If upon NHTSA's termination of this agreement or its expiration possession of the NADS system reverts to NHTSA, Iowa agrees to transfer to NHTSA, or to a third party designated by NHTSA, the complete NADS system, including one copy of all computer software, all applicable documentation, and data as may exist at the time of reversion. In the event of reversion, any issues of reimbursement shall be resolved in accordance with Attachment N of OMB Circular A-110, except that the cost of any NADS system hardware upgrades or enhancements that Iowa may have developed or acquired without the use of DOT funds during the operational phase of the NADS project shall be taken into account in determining the percentage of federal Government participation in the cost of the original project or program.

VIII. GENERAL PROVISIONS

The NHTSA General Provisions for Assistance Agreements, dated 5/90, as attached, shall be applicable to this Cooperative Agreement.

IX. MODIFICATIONS

Modifications to this Cooperative Agreement may be proposed at any time during the period of performance by either party, and shall become effective upon approval by both parties.

IN WITNESS WHEREOF, the parties hereto have caused this Cooperative Agreement to be executed as of the date therein written.

National Highway Traffic Safety
Administration
Washington, D.C. 20590

Linda C. Boor
(Signature)

Linda C. Boor
Contracting Officer
(Typed name and title)

MAR 19 1993
(Date)

The University of Iowa

Iowa City, Iowa 52242

(Signature)

Michael J. Finnegan
Business Manager
(Typed name and title)

3/5/93
(Date)

NADS COST OVERRUNS

Mr. CARR. Last year, you did not know whether the federal government would be committed to paying any cost overruns on the NADS project. Do you have any better idea this year?

[The information follows:]

NHTSA will implement an acquisition strategy for the NADS that will minimize the potential for cost overruns. A dual approach will be taken in this regard: (1) management of technical risk and (2) awarding of fixed price contracts whenever possible.

The Phase 1 design contracts will be awarded on a fixed-price basis. In addition, certain of the NADS subsystems that do not require development, e.g., the image generator and the vehicle dynamics computers, can also be acquired on fixed price subcontracts.

In the event that cost overruns do occur, they will be shared between DOT and the non-DOT sector in the same ratio as the original cost sharing, i.e., ⅔ from the DOT and ⅓ from non-DOT. The University of Iowa will have the responsibility of securing the additional non-DOT funding.

NADS: STATUS OF TSARC REVIEW

Mr. CARR. Please give us the status of the Transportation Systems Acquisition Review Council's review of the NADS project and indicate the next milestone for TSARC review.

[The information follows:]

The TSARC has approved the issuance of the of the RFP for the Design Phase of the NADS acquisition. Prior to award of the Design Phase, NHTSA will provide TSARC with a description, value and risk mitigation effort of the Iowa software for the NADS.

NADS TITLE TRANSFER

Mr. CARR. On page O&R–4 of the budget justifications you are proposing to delete bill language prohibiting the transfer of title of NADS from the federal government. What is the rationale for the proposed deletion?

[The information follows:]

Section VII.E. Special Provisions of the Cooperative Agreement between NHTSA and the University of Iowa addresses the issue of retention of title of the NADS by the Federal Government. It states that "At the conclusion of successful installation testing at the Iowa NADS facility, the completed NADS system will be provided to the University as Federally-owned non-expendable property in accordance with the provisions of Attachment N of OMB Circular A–110." Therefore, since NHTSA has already complied with the committee's direction, it is recommending deletion of the language appearing on page O&R–4 of the budget justification.

GM C/K PICKUP CASE SUMMARY

Mr. CARR. Can you explain what the General Motors C/K pickup truck case is about?

[The information follows:]

Section 152 of the National Traffic and Motor Vehicle Safety Act (Vehicle Safety Act) provides that if the Secretary of Transportation (who has delegated this authority to the National Highway Traffic Safety Administration (NHTSA)) determines that a motor vehicle or item of replacement equipment "contains a defect which relates to motor vehicle safety" or does not comply with an applicable Federal motor vehicle safety standard, he shall order the manufacturer to notify owners, purchasers, and dealers of the defect or noncompliance and to provide a remedy; i.e., to conduct a recall campaign. NHTSA has established the Office of Defects Investigation (ODI) under the Associate Administrator for Enforcement to investigate alleged defects and compile an investigatory record upon which the NHTSA Administrator can make the determinations required by section 152.

Section 151 of the Vehicle Safety Act requires vehicle manufacturers to "voluntarily" conduct a recall campaign if they obtain knowledge that their products contain a defect and determine in good faith that the defect relates to motor vehicle safety. Thus, most defect investigations opened by ODI are resolved without a formal order under section 152, either by the manufacturer agreeing to conduct a recall pursuant to section 151 or by NHTSA closing the investigation.

Although most defect investigations are begun by ODI on its own initiative, section 124 of the Vehicle Safety Act authorizes interested persons to file a petition requesting NHTSA to commence a defect investigation. On August 15, 1992, two consumer advocacy groups filed such a petition requesting the agency to conduct a defect investigation into allegations that certain General Motors (GM) pickup trucks with fuel tanks mounted outside the vehicle frame rails are defective because the gas tank location increases the risk of fire in side impact crashes. The petition alleged that over 300 people have died in post-crash fires in these vehicles. On December 8, 1992, after reviewing the allegations in the petition and a great deal of information provided by GM, NHTSA granted the petition and opened a defect investigation.

Consistent with NHTSA's statutory responsibility to protect the public against unreasonable safety risks, ODI has been conducting a thorough, professional, and objective investigation of the alleged defect. The object of this investigation is to assess whether, because of the placement of the fuel tanks outside the frame rails and the safety performance associated with this tank placement, these GM trucks contain a defect that "relates to motor vehicle safety," as defined in the statute.

The agency has carried out an intense effort to collect and analyze data and perform crash tests in order to understand the nature and scope of the alleged safety problem. Should a conclusion be reached by either GM or NHTSA that these vehicles contain a safety-related defect, a recall would be required. Should NHTSA conclude that the available evidence does not demonstrate that these GM trucks pose an unreasonable safety risk, it would close the investigation without issuing an order to conduct a safety recall.

Based on information developed during the investigation to date, ODI believes that these vehicles appear to contain a safety-related defect. Therefore, on April 9, 1993, ODI sent a recall request letter to GM.

On April 30, GM submitted a lengthy response to ODI's recall request letter, along with supplementary documents and analysis. In that response GM argued that the trucks in question do not contain a safety defect and therefore declined to implement a recall. In accordance with its established procedures, NHTSA will review the information submitted by GM and decide what further steps are appropriate.

Mr. CARR. I am trying to understand why the case seems so controversial. I have read press reports that you, Mr. Boehly (Associate Administrator for Enforcement), say that the trucks are safe, and that they comply with the fuel system standard. Do you agree that the C/K pickup trucks have generally performed well in crashes in the real world? What is the point of your case here?

[The information follows:]

Many of NHTSA's defect investigations involve controversial issues. In this case, the level of public and media interest is higher than usual, in part because death by fire has been linked to the design of these trucks. Also, the groups that filed the petition that led to the commencement of this investigation have continued to voice their concerns publicly, and the media has followed the investigation very closely. In addition, public awareness has been heightened by the recent award of over $100 million in punitive damages to the family of a young man killed in a fire following a crash of one of these GM pickup trucks.

With respect to the performance of these vehicles in the real world, the agency has focussed on crash data contained in its Fatal Accident Reporting System (FARS) in order to assess the fire risk of GM pickups and other vehicles in crashes. (A copy of our analysis is enclosed.) In this analysis, we used the measure of fatalities per million registered vehicle-years (a registered vehicle-year is one vehicle registered for one year) to assess safety performance. This measure permits comparisons among various vehicles in various crash modes.

Although a wide variety of factors have been considered, the primary emphasis in the agency's investigation has been on side impact crashes in which the side-mounted fuel tank on the GM trucks can be subjected to crash forces which could result in a fuel leak and resultant fire. While a vehicle may be relatively safe in the overall driving environment, an assessment of the safety risk in a particular crash mode, e.g, side crashes, may indicate an unreasonable safety risk.

The agency's analysis showed that in fatal side crashes, GM model year 1973–1987 full-size pickup trucks had a fatality rate per million registered vehicle-years of 32.08, compared to the Ford full-size pickup truck rate of 28.04, and the Dodge pickup truck rate of 25.02. Further, in these side impact fatal crashes, GM pickups had a rate of fire-related fatalities that is 2.4 times greater than that of similar Ford pickups (2.83 to 1.16). Finally, in those crashes in which fire caused the fatality (i.e., in which fire was found to be the "most harmful event"), the rate for GM pickups is 3.5 times greater than the Ford rate (1.47 for GM and .42 for Ford).

It is important to recognize that the issue here is not the "general performance" of these GM pickup trucks. Rather, it is whether the trucks contain a specific defect that creates an unreasonable risk to motor vehicle safety.

RECALL OF VEHICLES IN COMPLIANCE

Mr. Carr. Are you breaking new ground here? In what cases have you previously found a defect or obtained a recall when the vehicle complied with the relevant performance standard? What new precedents would be established if you pursue this case?

[The information follows:]

No, we are not breaking new ground. The statutory scheme contemplates an ongoing consideration by NHTSA of allegations of safety defects notwithstanding compliance with an applicable safety standard. ODI routinely conducts defect investigations involving aspects of performance covered by Federal motor vehicle safety standards. This practice recognizes that compliance with safety standards does not preclude the agency from finding safety-related defects in areas covered by the standards. For example, ODI has conducted defect investigations related to: Windshield Defrosting and Defogging Systems (FMVSS No. 104); Hydraulic Brake Systems (FMVSS No. 105); Brake Hoses (FMVSS No. 106); Tires (FMVSS No. 109); Hood Latch System (FMVSS No. 113); Door Locks and Door Retention Components (FMVSS No. 206); Seating Systems (FMVSS No. 207); and Occupant Crash Protection (FMVSS No. 208).

The motor vehicle industry is well aware of NHTSA's practice in this regard. In most cases, the manufacturers have conducted a recall to remedy the safety defect rather than attempt to challenge NHTSA's authority to order a defect recall.

SAFETY DEFECT DEFINITION

Mr. Carr. What does the term "safety-related defect" mean?

[The information follows:]

The meaning of the term "safety-related defect" is derived from two provisions of the National Traffic and Motor Vehicle Safety Act, 15 U.S.C. § 1381 et seq. Section 102(11) of that Act defines "Defect" as "any defect in the performance, construction, components, or materials in motor vehicles or items of motor vehicle equipment." Section 102(1) defines "Motor vehicle safety" as "the performance of motor vehicles or motor vehicle equipment in such a manner that the public is protected against an unreasonable risk of accidents occurring as a result of the design, construction, or performance of motor vehicles and is also protected against unreasonable risk of death or injury to persons in the event accidents do occur . . . ." As the industry is well aware, the issue of whether a particular defect imposes an "unreasonable risk" of accidents, deaths, or injuries depends on the particular circumstances of each investigation.

"BROKEN PART" DEFECTS

Mr. Carr. Don't most defects involve a "broken part" of some kind? Do you have a "broken part" here?

[The information follows:]

It is not necessary to find a "broken part" to demonstrate that a safety defect exists. While many defect investigations involve a specific broken part, an investigation can also assess the design, performance, or construction of vehicles. In addition, there have been many cases in which manufacturers have conducted defect recalls where there was no broken part; for example, where problems in a vehicle's electrical or cooling system led to fires in use, even though the systems were built exactly as they were designed. Indeed, General Motors recently recalled approximately 1.7 million 1988–1993 pickup trucks to remedy fires caused by transmission fluid expulsion onto hot surfaces, even though the company never identified a "broken part."

DEFECT BASIS

Mr. CARR. What does NHTSA think is the defect here?

[The information follows:]

First, it is important to note that although the agency's Office of Defects Investigation has considered a tremendous amount of information in this investigation, the agency has not reached a final determination that these vehicles contain a safety-related defect. Although ODI has requested GM to recall these vehicles "voluntarily" (i.e., without a formal order from the agency), the investigation is still in progress. As part of that investigation, NHTSA is now evaluating GM's response to ODI's recall request letter.

The alleged defect in the subject trucks is the placement of the fuel tanks outside of the frame rails, leading to an increased fire risk in side crashes. Additionally, the safety performance of the vehicle in terms of the fire incidence in side crashes is being investigated. Thus, the design, performance, and construction of the vehicles are all involved in the ongoing defect investigation.

FMVSS 301 COMPLIANCE

Mr. CARR. I understand that these trucks were certified to the fuel tank integrity standard, Standard 301. Do you have any reason to believe that the pickup trucks do not comply with the standard? Have you tested these trucks to Standard 301 in the course of this investigation? What did the tests show about compliance?

[The information follows:]

It is important to recognize that compliance with safety standards is not determinative in this context. Nevertheless, as part of this defect investigation, ODI has examined whether the pickup trucks complied with FMVSS No. 301, "Fuel System Integrity." GM provided information detailing their certification process. While the agency has not completed its review of this information, based on ODI's review to date, there are no data to suggest that these trucks did not comply, when new, with Standard No. 301.

Mr. CARR. It seems that a vehicle meeting Standard 301 ought to be presumed to prevent unreasonable risk of fuel leakage in the event of a collision, at least the types of collisions examined in the standard. Do you agree? If not, why not?

I am not sure that I understand how your theory of defect here is really any different than requiring these trucks to meet Standard 301 at a higher speed. Can you help me understand how it is different?

[The information follows:]

The ultimate question in the context of motor vehicle safety is not merely whether a product complies with NHTSA's standards, but rather whether in use it protects the driving public against an unreasonable risk to safety. The safety defect/remedy provisions of the Vehicle Safety Act supplement and complement the statutory provisions for adoption and enforcement of safety standards to maximize the protection of the public.

Safety standards are minimum standards for motor vehicle performance that all vehicles must meet to be sold in the United States. Under Section 103 of the Vehicle Safety Act, NHTSA's safety standards must be "practicable," "meet the need for motor vehicle safety," and be stated in "objective terms." They must also be "reasonable, practicable and appropriate for the particular type of motor vehicle" for which they are prescribed. Thus, safety standards cannot be expected to eliminate all safety defects that would pose a risk to vehicle occupants.

It is impossible to promulgate standards that will anticipate all designs or manufacturing processes that may be dangerous. Nor can standards for new vehicles completely guard against designs or processes which over time become dangerous to the driving public, either because of manufacturing flaws or because of the manner in which they operate in use. In other words, even if the GM pickup trucks at issue in this investigation are found to adequately protect the public in side crashes at 20 mph, they may be unreasonably unsafe in higher speed impacts. If a particular aspect of a vehicle's design or performance appears to create an unusually high risk of deaths or injuries, it is the responsibility of the government to investigate whether the vehicle contains a safey defect.

A NHTSA determination that these GM trucks contain a safety defect would not be tantamount to "retroactive rulemaking." Rather, it would reflect a conclusion that these vehicles have a defect which poses an unreasonable risk to motor vehicle safety.

FMVSS 301 RULEMAKING

Mr. CARR. How long has Standard 301 been in effect? I understand that NHTSA has opened a rulemaking proceeding to consider whether to increase the stringency of FMVSS 301. Is that correct? Isn't that the right way to let the manufacturers know of your expectations for fuel system performance?

[The information follows:]

The side impact provisions of FMVSS No. 301 have been in effect since 1977. The entire standard is currently being reviewed for possible amendment. With respect to the final question, see the answer to Question 8. However, any changes to the standard would not resolve the question of the safety of the GM trucks that are the subject of the pending investigation, since the issue here is whether the trucks contain a safety related defect.

FUTURE DEFECT CASES

Mr. CARR. What does your case say to a working-level engineer at a car company who is designing a future vehicle based on today's standards? How can he or she possibly predict whether NHTSA will use its defect authority 15 years from now to amend retroactively the standards he or she is relying on today? Isn't that the message of this case to all manufacturers?

[The information follows:]

Consistent with its statutory mission, NHTSA's message to manufacturers has been and will continue to be that they cannot be satisfied by simply meeting minimum standards, but that they should strive to eliminate all unreasonable safety risks. NHTSA strongly believes that all company employees involved in the design development process, from the "working-level engineer" to the president, should take all reasonable steps to maximize motor vehicle safety throughout the process. The structure of the Vehicle Safety Act, as well as the results of numerous product liability lawsuits, demonstrates that manufacturers cannot meet their safety responsibilities merely by satisfying the minimum standards established by NHTSA. In many circumstances, it is "unreasonable" not to do more, both at the initial design stage and in response to problems that become evident over time.

RECALL REQUEST LETTER

Mr. CARR. What significance does NHTSA attribute to its observation in the recall request letter that there could be 5 or 6 additional fatalities per year in the GM truck, especially given that there are 4.7 million C/K pickup trucks on the road? Does NHTSA mean that any vehicle model with 5 or 6 more fatalities than a comparable model is defective? Does that mean we recall all small cars, because they have more fatalities than large cars?

[The information follows:]

NHTSA's goal is to enhance motor vehicle safety in every way possible, and therefore it is concerned about any unnecessary fatalities in motor vehicle crashes. However, the agency does not claim that the number of additional deaths from fire in side-impact crashes in these GM vehicles is, by itself, determinative of whether a defect exists. Rather, the agency will consider all relevant circumstances in deciding whether GM's fatality rate is unreasonable. In this case, one relevant factor will be the options that were available to GM, both in the early 1970's when it designed these trucks and throughout the 15 years of their production, to avoid these deaths through a different design.

In addition, it is widely accepted and judicially recognized that, in considering whether a vehicle contains a safety defect, the appropriate comparison is with similar vehicles. Thus, the fact that the overall fatality rate of GM full-size pickup trucks is less than that of subcompact passenger cars is irrelevant; it neither "immunizes" the GM vehicles from a defect finding nor proves by itself that the subcompacts are defective.

AIR BAGS VS. SAFETY BELTS

Mr. CARR. Your data suggests that airbags provide more protection in high speed frontal crashes than seat belts alone. Does that mean that all cars equipped only with seat belts are defective?

[The information follows:]

No, it does not. The agency has long recognized that various occupant restraint systems, such as air bags, manual safety belts, and various automatic belt designs, will have different levels of effectiveness. NHTSA noted that fact when it issued Federal Motor Vehicle Safety Standard No. 208, "Occupant Crash Protection," in 1984. In any event, we assume that the Committee is not suggesting that the agency seek a recall of the many millions of vehicles on the road that are not equipped with air bags.

FORD BRONCO II DEFECT CASE

Mr. CARR. I have a chart here from a *New York Times* article which shows a rollover fatality rate of 3.78 per 10,000 vehicles for Ford Bronco II rear-wheel drive vehicles. This compares to 1.91 for the Jeep CJ–7, 1.74 for the Bronco II with four-wheel drive, 1.48 for the Jeep Wrangler and 1.11 for the Suzuki Samurai.

The article then states that Mr. Boehly "said the agency closed its defect of the Bronco II in 1990 after finding that its rate of involvement in rollover accidents was not significantly higher than that of similar vehicles, including the Samurai, the Jeep CJ–7 and the Toyota 4-Runner. Mr. Boehly and Ford officials said that looking at fatality statistics, rather than total accidents, could be misleading because the data base is much smaller." The article adds.

I do not want to single out a Ford vehicle, but what is the difference between the Bronco II defect case—which you closed out—and the GM truck case? Aren't you relying on fatality data in the GM case? What about the higher fatality rate for the Bronco II, which in some cases is as much as three times higher than peer vehicles?

[The information follows:]

In considering the issue whether the agency's actions in the Bronco II case were consistent with ODI's approach in the pending GM pickup truck investigation, it is important to emphasize that every defect investigation is different. The Bronco II investigation was concerned with rollover propensity, while the GM pickup truck investigation is focussed on post-crash fires, a crashworthiness issue. For that reason, the accident data used to analyze the alleged defect in the Bronco II investigation was different from that used in the GM investigation.

Because the agency's focus in the Bronco II investigation was on the rollover propensity of the vehicle, it was most appropriate to consider data files that provided data on the frequency of crash occurrences over the full spectrum of crash severity. After the agency found that there was no statistical difference in the rollover rate for the Bronco II compared to other sport utility vehicles, the investigation was closed.

The data referred to in the *NY Times* article, which were not developed by NHTSA and were not considered by the agency, were fatality data for the Bronco II and other vehicles. As such, they do not provide insight into the rollover susceptibility of the Bronco II in comparison to other sport utility vehicles.

In contrast, to address crash protection issues, such as those involved in the GM pickup truck investigation, data on fatalities and injuries are more relevant. In a crashworthiness inquiry, the question is not whether a vehicle has a higher propensity to become involved in a crash, but rather, does the vehicle pose an unreasonable risk of death or injury if a crash occurs? Since the GM pickup truck investigation is focused on whether, given a crash, the GM pickup trucks pose an unreasonable risk of a fire-related fatality, it is appropriate to concentrate on fatality data.

NISSAN MINI-VAN CASE SUMMARY

Mr. CARR. In the GM C/K pickup truck investigation, NHTSA acted within five months to call for a voluntary recall. Apparently, problems with the Nissan vans have been occurring over five years. What can you tell me about this situation and what you are doing to address it?

[The information follows:]

NHTSA has not reached a conclusion as to whether a safety recall is warranted concerning the GM trucks. This is a very complex investigation, involving a wide range of issues. While NHTSA's Office of Defects Investigation recommended a recall, this is not a final decision that orders a recall. Conversely, underhood fires in Nissan vans has been recognized as a significant safety problem by both NHTSA and Nissan. Thus, the issue in the Nissan matter is not whether a recall is warranted, but how best to fix a defect. Here, a defect exists and a recall to fully address the underhood fire problem is imperative. Thus, the focus of the Nissan issue is to ensure that the defect is adequately remedied.

The first Nissan van recall occurred after Nissan identified a safety defect involving a valve cover gasket in the early production of model year 1987. NHTSA actions directly influenced the 1990 and 1991 safety recalls of the Nissan vans for engine compartment fires. In both cases, once NHTSA became aware of engine compartment fires involving vehicles which had the previous applicable recall work conducted, an investigation was initiated. In each instance, Nissan recalled the vehicles during NHTSA's review of the information.

The 1991 recall remedy program did not begin until April 1993. Between April 1992 and January 25, 1993 (the date NHTSA was petitioned to hold a public hearing on the adequacy of the previous Nissan recalls), NHTSA was not aware of any new engine compartment fires involving Nissan vans in which all the applicable recall work was completed. During our review of all information provided by the petitioner, Nissan, and consumers it was determined that seven engine compartment fires had occurred in Nissan vans that had correctly received all previous recall remedies. All of the fires resulted from overheated engine conditions caused by either a water pump fan belt failure or a significant loss of engine coolant. Continued operation of the van under these conditions caused the vehicle to rapidly overheat and resulted in overheated coolant leaking into the engine compartment, contacting a hot engine component and possibly igniting.

Nissan's remedy for the upcoming recall involves a redesigned engine cooling system. The remedy calls for the complete replacement of the fan belt, water pump, alternator and associated pulleys, a new radiator, and an auxiliary electric fan. The new cooling system drive assembly will utilize a new design fan belt which has a longer life and high temperature resistance. The electric fan is designed to push air through the radiator when coolant temperatures exceed 100 °C, and remains on for up to 6 minutes after the ignition is turned off, to further reduce temperatures. The new radiator is a vertical-flow radiator as opposed to the original side-flow radiator. This design improves coolant flow to reduce engine temperature. The redesigned cooling system provides enhanced performance under normal operation, and in testing, has significantly reduced the likelihood of overheating and fire, should the water pump fan belt fail or the coolant capacity become inadequate. In addition, Nissan will place a cover over the cylinder head freeze plug, which will limit the flow of coolant out of the engine in the event of a failure, thus minimizing fire risk. Finally, Nissan has enhanced the warning to the operator should overheating conditions occur, by installing a supplemental audible warning and activation of the vehicle emergency flashers when high coolant temperature, or alternator (possible fan belt problem) problem is detected. This supplements existing warning lamps on the instrument panel. If the operator continues to operate the vehicle for 35 seconds, an engine rmp limiter will engage, restricting the vehicle to approximately 36 mph. This remedial action by Nissan appears to address any possibility of a fire from engine overheating and associated coolant system failure. The agency will closely oversee the performance of this recall and will conduct a complete audit of the recall this fall. NHTSA has also requested that Nissan continue to study the engine compartment fire issue to insure that all possible problems have been corrected. Finally, should any fire problems occur in vehicles with this latest remedy, NHTSA will convene a public meeting to determine what steps should be taken to address this matter.

NHTSA RULEMAKING PROCESSING TIMES

Mr. CARR. Secretary Peña has indicated that he wants to speed up the regulatory processes within the Department—that it takes the Department too long to do rulemaking.

What is your record on the length of time it takes you to complete a rulemaking compared with other modes at DOT?

[The information follows:]

The agency, over the first four months of 1993, is processing rulemakings at a 20.1 months rate, down from 24.0 months in 1989 and 21.8 months in 1992. During April 1993, our processing rate was 17.6 months.

We were unable to determine the processing times of other DOT modes.

Mr. CARR. How do you plan to address the Secretary's interest in the rulemaking process?

[The information follows:]

NHTSA will continue its focus on reducing the time to process rulemakings. We have reduced the average processing time from 24 months in 1989 to about 20 months in the first four months of 1993. During April 1993, we processed regulatory actions at the rate of 17.6 months, below our goal of 18 months. We have also increased the number of rulemaking actions processed, from an annual average of 72 in the 1980's to 105 in 1990–92.

We will also work closely with the Secretary's staff in developing ways to expedite the regulatory review process within the Office of the Secretary and at the Office of Management and Budget.

GAO RECOMMENDATIONS ON REGULATORY COST REDUCTION

Mr. CARR. The GAO reviewed last year NHTSA's regulatory cost estimating process for motor vehicle regulations, and made a number of recommendations, including that NHTSA and EPA should more fully consider the combined and interactive impact of safety, fuel economy and emissions regulations on the automobile industry. What practical measures have you put into place toward accomplishing that recommendation?

[The information follows:]

First, NHTSA has, since 1989, as a result of a Memorandum of Understanding, coordinated its rulemakings with EPA and met quarterly with that agency to discuss items of mutual interest, including the timing and cumulative effects of rulemakings.

NHTSA has updated its cost estimating methodology to produce cost estimates responsive to the GAO recommendations. NHTSA cost estimating methodology has been modified to account for the variations among auto manufacturers and, if necessary, their product lines instead of a single industry average cost estimate for proposed regulations.

NHTSA will send copies of the cost estimating methodology to EPA and the Department of Energy (DOE) for review. NHTSA intends to meet with EPA and DOE staff to discuss common estimating procedures, common data bases, where possible, and procedures to ensure that the combined and interactive impacts of safety, fuel economy, and emissions regulations on the automobile industry are fully considered.

REEVALUATING COSTS-BENEFITS

Mr. CARR. To what extent do you reevaluate regulations after they have been issued to see how the actual costs and benefits compare with your original estimates? Please provide a few examples for the record.

[The information follows:]

The agency has rigorously evaluated its major regulations as a matter of policy since 1970. The evaluation of the effectiveness and costs of the Federal Motor Vehicle Safety Standards began in 1975. Since then, some 30 comprehensive evaluations of existing safety standards and other programs have been completed. Since 1981, reevaluation of existing regulations has been a matter of Federal policy, under Executive Order 12291.

For example, the agency's Interim Evaluation Report on the effectiveness of occupant protection, issued in June 1992, showed that the fatality risk of occupants in cars equipped with air bags plus manual belts (at 1991 use rates) is 23 percent lower than in "baseline" cars with manual belts at 1983 use rates. The reductions are within the range of effectiveness projected in the agency's 1984 Regulatory Impact Analysis, prior to issuing the standard.

The evaluation of the fuel system integrity standard, issued in November 1990, indicated that modifications to fuel systems reduced the frequency of fires in nonfatal crashes of passenger cars by an estimated 14 percent, but did not show any reduction of fatal fires in cars or light trucks. Subsequently, a task force was established to study post-crash fires, recommend upgrades to FMVSS 301, if deemed appropriate.

The agency's evaluation report on Center High Mounted Stop Lamps, issued in July 1989, found a lower accident reduction for the lamps than had been projected in the 1983 Regulatory Impact Analysis. Nevertheless, the benefits (accidents and property damage avoided) easily exceed the cost of the lamps.

The agency's survey and evaluation of the fuel economy of cars and light trucks, issued in May 1986, showed that actual, on-road fuel economy was consistently 15-20 percent below the ratings obtained in the laboratory by the Environmental Protection Agency. EPA's consumer brochures shifted to a more conservative method for estimating fuel economy.

NHTSA COST ESTIMATION METHODS

Mr. CARR. The Department indicated in its response to GAO that NHTSA would prepare a paper describing its methodology for estimating manufacturer and consumer costs and solicit comments on these cost-estimating methods. What is the status of this activity?

[The information follows:]

The agency has prepared a report describing the cost methodology that is used for estimating manufacturer and consumer costs of rulemaking actions. This report will be made available for public comment this spring. A notice will be published in the Federal Register announcing its availability.

NHTSA VIEWS ON VAPOR RECOVERY

Mr. CARR. The Environmental Protection Agency (EPA) announced earlier this month that it would not appeal a federal appeals court ruling requiring that new cars be equipped with canisters to capture fumes from gasoline refueling.

Given your concerns about safety, the fact that there are practical alternatives (recovery at the pump), are you satisfied that NHTSA has done all you can do to address this issue?

[The information follows:]

Yes, NHTSA has comprehensively addressed the issue of onboard vapor recovery safety. The agency completed its statutory mandated consultation with the Environmental Protection Agency (EPA) concerning the safety of vehicle-based systems for the control of vehicle refueling emissions. NHTSA provided its findings in this matter to the EPA in a 1991 study titled, "An Assessment of the Safety of On-Board Refueling Vapor Recovery Systems," and again on November 27, 1991, in a review of comments filed in response to EPA's September 1991 public meeting on the study. Although our consultation role is completed, NHTSA will continue to work with EPA to monitor manufacturer progress in the development of such systems and discuss potential safety issues. Separately, NHTSA is considering whether to amend Federal Motor Vehicle Safety Standard No. 301, "Fuel System Integrity," to impose performance requirements for onboard refueling vapor recovery systems.

Mr. CARR. Do you believe that a legislative remedy would be appropriate?

[The information follows:]

NHTSA believes that the Department of Transportation/Environmental Protection Agency (EPA) consultation process has worked as Congress envisioned. Subsequent to that process, on March 27, 1992, EPA decided not to promulgate the Onboard Refueling Vapor Recovery requirements. That decision was challenged by several advocacy groups and petroleum companies. On January 22, 1993, the U.S. Court of Appeals for the D.C. Circuit set aside the EPA decision and ordered EPA to promulgate a regulation requiring ORVR systems. NHTSA believes that only Congress should make a determination as to whether it would be appropriate to revisit this issue from a legislative perspective.

Mr. CARR. Please provide for the record the executive summary of NHTSA's study, "An Assessment of the Safety of On-Board Refueling Vapor Recovery Systems".

[The information follows:]

The executive summary of NHTSA's study, "An Assessment of the Safety of On Board Refueling Vapor Recovery Systems," is provided for the record.

U.S. Department
of Transportation

**National Highway
Traffic Safety
Administration**

AN ASSESSMENT OF THE SAFETY OF ONBOARD REFUELING VAPOR RECOVERY SYSTEMS

PREPARED BY

ENFORCEMENT
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

JULY 1991

EXECUTIVE SUMMARY

The Clean Air Act Amendments of 1990 require that the Environmental Protection Agency (EPA) consult with the Department of Transportation (DOT) concerning the safety of vehicle based systems for the control of vehicle refueling emissions before promulgating a rule requiring the installation of these systems on new light duty vehicles. DOT has delegated the responsibility for assessing the safety of these systems to the National Highway Traffic Safety Administration (NHTSA). Onboard refueling vapor recovery (ORVR) systems are contained within the vehicle and their function is to capture fuel vapors which occur during vehicle refueling, to store the vapors, and to meter them into the engine for combustion.

Historically, NHTSA has provided its views concerning onboard refueling vapor recovery (ORVR) safety to EPA. In 1988 and 1989, NHTSA indicated that it believed ORVR would increase safety risks. In 1991, after Congress passed the above referenced Act, the NHTSA Administrator advised the EPA Administrator of continuing safety concerns and stated that NHTSA would continue its assessment of ORVR safety. Further, the Administrator indicated that NHTSA would provide EPA a report, documenting its findings. The purpose of this report is to establish NHTSA's consultation position concerning onboard safety, in accordance with statutory direction, to be used by EPA in its rulemaking deliberations concerning ORVR safety.

The principal findings of this report are:

- There are no ORVR prototype systems that function satisfactorily under all vehicle operating conditions and that meet current evaporative and tailpipe emission requirements. Further, there are no ORVR prototypes that can meet the more stringent tailpipe and enhanced evaporative emissions requirements of the 1990 Clean Air Act Amendments.

- Based on the results of all testing and evaluation conducted to date, production ORVR systems will be much more complex than current evaporative systems. This increased complexity leads to the following safety concerns:

    - The increase in the number of parts and connections will make ORVR systems more vulnerable to failure in collisions and in normal use.

    - Some ORVR components, such as filler pipe nozzle sealing devices and vapor vent valves, will need to be placed in areas of potential collision damage, adding to the likelihood of fuel and vapor release in collisions. These sealing devices and valves are necessary, since testing has shown that simpler systems cannot perform adequately.

    - Many ORVR components will be larger and therefore more difficult to locate in areas less likely to sustain damage in collisions.

  - The larger ORVR components, particularly during operation in high ambient temperatures, will carry much larger inventories of fuel vapor than current evaporative systems, increasing the likelihood of fires if a release of this vapor should occur in the presence of an ignition source.

- The increased design complexity of ORVR systems will result in an increase in safety risk.

- During the refueling process, vapor flow from the fuel tank to an ORVR canister for vapor storage can be 45 to 65 grams per minute. This is much greater than current evaporative flow rates, which rarely exceed 6 to 8 grams per minute and are generally less than 1 gram per minute. Should this vapor escape, due to a design or manufacturing error, improper maintenance, or tampering, uncontrolled vapor would flow into the engine compartment or under the vehicle and ignite, should an ignition source be present. This results in an increased safety risk.

- High vapor flow during vehicle refueling will result in a significant increase in the fuel vapor stored onboard the vehicles in canisters. This increased vapor would represent a substantial increase in the stored fuel vapor onboard vehicles, compared to existing vehicles.

- NHTSA tests simulating a failed refueling vapor vent hose indicated that vapor flowing through this hose, if exposed to ignition sources characteristic of the motor vehicle environment, would ignite and result in a sustained flame of some 2-3 feet in length.

- Full scale laboratory vehicle tests indicate current evaporative canisters can lose their integrity in crashes and expose the charcoal/vapor contents of the canister to possible ignition sources. NHTSA tests simulating a canister broken due to collision forces indicated that the vapor in canisters, if exposed to ignition sources characteristic of the motor vehicle environment, would ignite and result in significant, self-sustaining fires.

- Based on these tests, under certain conditions representative of the motor vehicle crash and operating environment, ORVR systems would increase the risk of fire and hence result in increased safety risk compared to current vehicles.

- Control of gasoline vapors at the fuel pump ("Stage II") is a viable alternative to ORVR. Gasoline dispensing stations equipped with Stage II have a lower risk of fire compared to non-Stage II stations. Further, a study by California Air Resources Board (CARB) indicated that Stage II systems are more effective in controlling refueling vapors than ORVR (Stage II is currently in use in California).

Principal Conclusions:

- The complexity of these systems and data indicating that fire risks will increase with ORVR systems lead to the conclusion that ORVR systems will result in an increase in safety risk and thus have a negative impact on safety.
- NHTSA's finding of increased safety risk associated with ORVR systems, coupled with the lack of increased safety risk with Stage II, should be used by EPA in their regulatory decision concerning ORVR installation.
- Since ORVR systems increase safety risk and Stage II does not, it seems reasonable for EPA to conclude that ORVR systems constitute an unreasonable safety risk.

EPA–DOT CAFE RESPONSIBILITIES

Mr. CARR. Would you define the responsibilities of the EPA and the DOT relating to corporate average fuel economy (CAFE)?

[The information follows:]

EPA establishes the test procedures for measuring fuel economy, because this test is performed in conjunction with exhaust emissions testing. Auto manufacturers report their CAFE values for each model year to EPA, and EPA verifies this information before passing it on to NHTSA. EPA also regulates fuel economy labels for new cars and light trucks, and provides the Department of Energy with fuel economy values for each year's "Gas Mileage Guide." NHTSA establishes and enforces the CAFE standards.

CAFE SAFETY IMPACT

Mr. CARR. What are the Department's current views on the safety impact of increasing the CAFE standards?

[The information follows:]

During the Presidential campaign, Governor Clinton indicated support for improving fuel economy, and cited higher CAFE standards as one way to achieve that goal. Governor Clinton stated that the government should not impose standards that are technologically infeasible or that discriminate against domestic full-line producers. While the Department supports the concept of improved passenger car and light truck fuel efficiency, NHTSA and other studies of crash data indicate that (all else being equal) any fuel economy increases from vehicle size and weight reductions are likely to have adverse safety consequences.

On April 2, 1993, when the Department announced its decision on light truck fuel economy standards for model year 1995, it also stated that, "NHTSA will take additional time to consider a rule for [the 1996 and 1997] model years, in view of the need to take a broader look at the role of CAFE in energy conservation. In this process, the Department of Transportation will seek the views of the industry, safety and environmental groups, and other federal agencies."

ECONOMIC CONSIDERATIONS IN CAFE STANDARDS

Mr. CARR. As you know, some segments of the automobile industry are in difficult financial straits. How much weight does the current economic condition of the U.S. automobile industry have on your thinking about whether CAFE standards should be continued and increased?

[The information follows:]

In determining "maximum feasible" fuel economy standards, the Motor Vehicle Information and Cost Savings Act requires NHTSA to consider several factors, including "economic practicability." NHTSA has interpreted "economic practicability" as including whether the industry can reasonably afford to make the physical changes in their vehicles necessary to improve their fuel efficiency.

NAS CAFE STUDY

Mr. CARR. Last year, the National Academy of Sciences (NAS) released its study on automotive fuel economy that was funded through NHTSA. The NAS report indicated that it would be feasible to increase CAFE standards for passenger cars to 31–33 miles-per-gallon by the year 2001, but that "the CAFE approach to achieving automotive fuel economy has defects that are sufficiently grievous to warrant careful reconsideration of the approach."

The NAS study recommends several options for improving fuel economy, such as tailoring standards to the size class of the car, increasing fuel prices, implementing a system of fees and rebates related to the fuel economy of the vehicle, etc. What is your assessment of the findings and recommendations of the NAS study?

[The information follows:]

Two clarifications need to be made before NHTSA answers this question. First, the NAS report was was equally co-funded by NHTSA and the Federal Highway Administration. Second, the NAS study did not conclude that it would be feasible to increase CAFE standards to 31-33 mpg by the year 2001. The study concluded that such levels are "technically achievable," but went on to state that these "technically achievable" levels do not include, ". . . cost-benefit considerations involving new vehicle affordability, sales, employment in the automotive industry, competitiveness, or safety impacts . . ." NAS also went on to state that "the committee's estimates of what is technically achievable [should not] be taken as its recommendations on future fuel economy standards." Finally, NAS added, "The committee believes that the practically achievable levels—the levels of fuel economy . . . that achieve an appropriate balance of a broad array of costs and benefits—are likely to be found in the regions between the levels that would be achieved without any government intervention and the 'technically achievable' levels." (These quotes are from page 2 of the NAS report.)

Although we have looked at the findings and the major policy options addressed in the NAS report, we have not made any decisions in this area. However, the Administration is committed to taking a broader look at the role of CAFE in national energy conservation efforts. In this process, DOT will seek the views of the auto industry, safety and environmental groups, and other Federal agencies.

Mr. CARR. What plans do you have this year and in your fiscal year 1994 budget to evaluate any of these approaches?

[The information follows:]

The Administration is committed to taking a broader look at the role of CAFE in national energy conservation efforts, and will seek the views of the auto industry, safety and environmental groups, and other Federal agencies.

NHTSA's FY 1994 budget request is designed to substantially increase our knowledge in the fuel economy area. This enhances the Federal government's ability to appropriately evaluate CAFE policy options. The bulk ($801 thousand) of the FY 1994 fuel economy request will be applied to a thorough study of costs, benefits, and other issues associated with emerging technologies (such as two-cycle engines and continuously-variable transmissions) that appear to have significant potential to raise light vehicle fuel economy. The remaining $160 thousand will be used to maintain and upgrade work started in FY 1993 to compile a database on North American vehicle manufacturers, including production capacity and employment, product and production facility plans, and financial information.

LIGHT TRUCK CAFE STANDARD RATIONALE

Mr. CARR. NHTSA recently set the 1995 CAFE standard for light trucks at 20.6 miles per gallon (mpg), slightly above the 20.5 mpg standard for 1994. Please tell us your reasoning for setting the standard at this level?

[The information follows:]

The model year (MY) 1995 light truck fuel economy standard was set at the "maximum feasible level" considering the four statutory criteria: (1) technological feasibility, (2) economic practicability, (3) the effect of other Federal motor vehicle standards on fuel economy, and (4) the need of the Nation to conserve energy.

In considering economic practicability, the agency examined the product plans and capabilities of manufacturers with a large share of the market. General Motors was projecting by far the lowest CAFE of any major manufacturer at 20.1 mpg, which it indicated might further be reduced to 19.8 mpg if certain uncertainties in its confidential submission were to occur. The agency examined these uncertainties, which related to new engine programs that were closely related to current, apparently successful engines, and the sales prospects of some new models. The agency believed that the risks involved with GM's projection of 20.1 mpg were minimal.

The agency also noted that the GM fleet that was projected to achieve a baseline of 20.1 mpg for MY 1995 was biased toward a much larger share of 4WD vehicles than it had historically produced, its performance level was projected to be higher than its competitors, and the share of its fleet devoted to one efficient model type was very low. Additionally, the agency believed that there was an opportunity to make a small improvement in fuel economy through technology, such as advancing the introduction of some improvements planned for MY 1996 that are already in production on other GM models.

As a consequence the agency believed that a CAFE level of 20.6 mpg was feasible for GM as follows:

	MPG
Baseline Gm Projection	20.1
Reduce share of 4WD models to the highest previous level (MY 1985)	+0.2
Reduce performance to competitors' fleet level	+0.1
Increase share of fuel efficient model to MY 1992 level	+0.1
Advance introduction of certain planned improvements to MY 1995	+0.1
GM MY 1995 capability	20.6

The agency determined that Ford and Chrysler could also meet this level.

Mr. CARR. The NAS study indicates that fuel economy increases to 22 mpg for model year 1996 and 24–25 mpg for model year 2001 for light trucks are "technically achievable". Do you agree with that assessment and could that level be achieved without compromising overall safety?

[The information follows:]

The NAS assessment is based upon overall levels of fuel economy that may be achievable by the entire light truck fleet, but does not separately evaluate the potential of each major manufacturer as the agency does when setting standards. The model year (MY) 1996 level projected by NAS is based on the assumption that the average fuel economy of each size class of light truck can be improved by 0.7 mpg over the average value for MY 1991. This improvement may not be possible by MY 1996 since the product mix that is being marketed in MYs 1992 and 1993 does not yield an average fuel economy as high as was achieved in MY 1991 (20.7 and 20.8 mpg vs. 21.3 mpg). The actual MY 1996 product mix may deviate even more from that of MY 1991.

The MY 2001 estimates by NAS are an interpolation from a projection for a MY 2006 fleet of the same mix and performance level as MY 1990 which meets Tier I emissions standards, but not Tier II. The fleet is simplified to cover the four largest selling types of light trucks, representing about 90 percent of the actual fleet in MY 1990. The models that are not included are large vans and large utility vehicles which have generally lower fuel economies and typically are not redesigned very often. The technology that was included in the MY 2006 projection is available in production somewhere today and was used if it was cost effective at fuel prices no greater than 5 to 10 dollars per gallon. Thus, the MY 2001 estimates are hypothetical estimates for an abbreviated fleet of a composition similar to that of MY 1990 and assuming that fuel prices will be considerably higher.

The NAS report notes that it has not considered safety impacts in developing the technically achievable levels. The agency is unable to assess whether the NAS projection would likely compromise safety without knowing how much of the technology addition in each of these years was related to weight reduction.

FUEL ECONOMY BUDGET

Mr. CARR. The major increase in fiscal year 1994 under your rulemaking program is a request of $961,000 for the Fuel Economy Program. Since the Administration has not yet established which policy direction it plans to pursue in regard to the CAFE program, why should we invest funds now for new initiatives?

[The information follows:]

One of the conclusions of the National Academy of Sciences report on the potential to improve automobile fuel economy was that government agencies need to have better understanding of the technical issues, costs, benefits, and risks of fuel economy regulation. The FY 1994 funding request is responsive to this conclusion. When fuel economy standards were initially set in the late 1970's, the agency depended on millions of dollars worth of studies of technology, manufacturing, and marketing for fuel economy improvements to assess the proper levels of standards. That work is basically obsolete and needs to be updated. The funding request in this budget would enable the agency to begin to rebuild this capability.

In conclusion, this funding request is not so much for a new initiative as it is for an update of technical data that is no longer current. Because of the existing law on fuel economy, this information is necessary regardless of the final policy direction which the Administration decides upon. In addition, should the Administration decide to carefully examine the ability to improve vehicle fuel economy as part of energy conservation or global warming concerns, lack of funding in this area will inhibit its ability to do so.

FUEL ECONOMY DATABASE

Mr. CARR. You are requesting funding in fiscal year 1994 to include auto manufacturer financial information in your plants and lines database. What type of information is currently included in this database and what additional information would be collected under your budget proposal?

[The information follows:]

The Automotive Production Planning and Facilities Analysis System currently is under development. It is not yet operational; however, NHTSA's target is to have this system working by the end of FY 1993. This data base would greatly increase the agency's ability to perform analyses of the impacts of possible policy options (such as changes to fuel economy standards) on the auto industry. The system is being developed by the Volpe National Transportation Systems Center.

For FY 1993, the data base will have two components. One will be a facilities section with information on engine, transmission, and final assembly plants in the United States, Canada, and Mexico. It will cover domestic auto companies and transplants. It also will include information on other plants (such as interior trim and axles) if available. For each plant, there will be data on production capacity, production levels, products made, employment, etc. There will also be a "comments" section for each plant, which could be used to identify recent changes in the plant, known plans for the future, etc. The plants also will be interlinked, in that, for example, we will know the engine and transmission plants that supply components to each assembly plant.

The second part of the data base will be product planning information. This will include information on current and expected future cars/trucks sold in North America. The data base will be set up so that one could find production facility data on a given vehicle nameplate or "platform."

Under NHTSA's FY 1994 budget proposal, we plan to expand this data base to include a third component, providing financial data for auto manufacturers. Although we have not yet defined the financial data elements, we plan to include information from income statements, balance sheets, and sources-and-uses-of-funds statements. We would also like to include financial information by geographic area and line of business.

All information in this data base will be compiled from public sources.

Mr. CARR. How much is requested for collecting this additional information and how would the information be used?

[The information follows:]

We are requesting $100 thousand for FY 1994 to modify the Automotive Production Planning and Facilities Analysis System to include financial information. This cost estimate is primarily for modifying the system, not collecting the data used in it. NHTSA's FY 1994 request in this area also includes $60 thousand to maintain this data base. This includes acquiring data and keeping it current.

The information would be used to help the agency assess the impacts of any major program or action with the potential to substantially affect the financial condition of the domestic auto industry.

ELECTRIC VEHICLE CRASHWORTHINESS

Mr. CARR. The big three car companies are now discussing plans for a joint collaboration to build an electric car, in part to meet clean-air law requirements first adopted in California and more recently in several Northeastern states. All of the car companies are concerned about their ability to have a new vehicle ready for the 1998 car model year when California law requires 2 percent of every car company's sales in that state to be zero-emission vehicles, presumably electric cars.

The budget justifications indicate on page R&A–8 that new technologies related to the crashworthiness of electric and alternative-fuel vehicles will be explored and tested. Can you identify some of the more promising technologies?

[The information follows:]

Design, weight, and weight distribution for electric vehicles may be such that compliance with existing crashworthiness safety standards will pose difficulties. Additionally, there are potential hazards during a crash of electric shock, fires, contact with toxic electrolytes, and battery system explosion.

Research is underway to examine existing safety practices involved in manufacturing and testing of batteries and electric propulsion equipment; review safety standards concerning shock levels, battery explosion, and exposure limits to chemicals; locate and review accident and crash test data; develop models of electric vehicle crash tests to compare responses to those of conventional internal combustion engine vehicles; develop a crash test procedure that quantifies exposure to shock or hazardous chemicals; and test available vehicles for compliance with existing safety standards.

The aforementioned research only recently has been initiated. It is too early at this point to identify promising technologies that may be required to alleviate some of these concerns.

Mr. CARR. To what extent are you, or can you, cooperate with the automobile manufacturers in this regard?

[The information follows:]

Besides providing information generated from the agency's research efforts, it is possible for the agency to enter into cooperative agreements with the consortia that have been established by USCAR. Such agreements could provide both the agency and the manufacturers a good exchange of information and research findings.

MANUFACTURERS "CLEAN CAR" CONCEPT

Mr. CARR. Recent press reports indicate that the Administration is considering a joint initiative with the big three car manufacturers to develop new technologies for "clean cars". Has the Department (i.e. NHTSA) been involved in any of these discussions?

[The information follows:]

At this point, the agency has not been involved with discussions involving the development of new technologies for "clean cars." However, it is anticipated that the agency will be involved.

Mr. CARR. Do you know what the goals of this new initiative are and what agencies would be involved?

[The information follows:]

The initiative involves the Department of Commerce, Energy, and Transportation and the Environmental Protection Agency. At this time the detailed goals of the project are being formulated by representatives of these agencies. Key state officials will be involved also. The overall goal is to facilitate private sector development of a new generation of automobiles.

Mr. CARR. Press accounts mention the Department of Commerce and EPA. Do you see a role for NHTSA?

[The information follows:]

The agency feels that NHTSA should be involved. Safety must be a major concern to be included in any initiative or development regarding vehicle design and function.

ISTEA RULEMAKING STATUS

Mr. Carr. ISTEA mandated that NHTSA conduct rulemaking in eight areas: vehicle rollover, head injury protection, side impact protection for light trucks, improved seat belt design, safety of child booster seats, and heavy truck brakes, anti-lock brakes for passenger cars, and passenger side airbags. We will discuss some of these in more detail later. First, please discuss the current timetable NHTSA is following to meet the rulemaking requirements in ISTEA. Are you on schedule?

[The information follows:]

Yes. NHTSA has met all initiation dates for rulemakings mandated by ISTEA and fully expects to meet all completion dates. The 1991 ISTEA mandated rulemakings and the next task scheduled for each are:

Extending dynamic side impact protection for light trucks, vans and multipurpose vehicles: NPRM to be published Fall 1993.

Addressing rollover protection in passenger cars, light trucks, and multipurpose vehicles: NPRM to be published Fall 1993.

Addressing the safety of child booster seats used in passenger cars and other appropriate vehicles: NPRM to be published Summer 1993.

Improving the design of seat belts: NPRM to be published Fall 1993.

Improving the braking systems of heavy trucks considering such improvements as anti-lock braking, compatibility of systems and timing: NPRM to be published Spring 1993.

Considering methods to reduce head injuries in passenger cars from impacts with vehicles' interior components: Final rule to be published by early 1994.

Amending FMVSS 208, Occupant Crash Protection, to require 95% of passenger cars to have full front seat air bags by model year 1997 and 100% by model year 1998; to require 80% of light trucks and multipurpose passenger vehicles to have full front seat air bags by model year 1998 and 100% by model year 1999: Final rule to be published by September 1993.

Exploring the need for additional brake performance standards, including anti-lock brake standards for passenger cars: ANPRM to be published Fall 1993.

RULEMAKING PRIORITIES

Mr. Carr. Last year, you indicated that rulemaking on rollover, head injuries in passenger cars and light duty trucks and vans, and anti-lock brakes were your highest rulemaking priorities. Have those priorities changed?

[The information follows:]

No. These three rulemakings address significant safety problems and have the potential to save thousands of lives per year. Until these rulemakings are completed, which should be by early 1994, they will remain our top priorities.

RULEMAKING TIMELINESS

Mr. Carr. What impact are the ISTEA mandates having on the agency and your ability to proceed with other rulemakings on a timely basis?

[The information follows:]

Most of the rulemakings mandated by ISTEA were in progress when the law was passed. While some redirection of resources has occurred as the agency gives these rulemakings its highest priority, the agency does not expect that its ability to proceed with other rulemakings on a timely basis will be affected significantly.

HEAD INJURY DEATHS

Mr. Carr. What are your latest estimates regarding the annual number of automobile accident fatalities that result from head injury?

[The information follows:]

The agency has estimated that approximately 3,350 fatalities and over 26,000 moderate to serious injuries result from head impacts against vehicle upper interior components such as pillars, headers and side rails. About 88 percent of the casualties occur in passenger cars and 12 percent in light trucks, vans, and multipurpose passenger vehicles. Approximately 98 percent of the fatalities and injuries occur to the occupants in the front compartment of the vehicle as occupancy rates in rear compartments are generally low.

LTV HEAD IMPACT RULE

Mr. CARR. You have issued a proposed rule to improve interior head protection for occupants of cars, light trucks, vans and multipurpose vehicles. How many lives do you estimate would be saved by the proposed rule?

[The information follows:]

On February 8, 1993, NHTSA issued a Notice Proposed Rulemaking to amend Federal Motor Vehicle Safety Standard No. 201 to provide head impact protection in interior impacts against upper interior components of vehicles. In its Preliminary Regulatory Impact Analysis, the agency estimated benefits based on two proposals in the NPRM for the Head Injury Criterion (HIC) thresholds. For the 1000 HIC limit, the agency estimated that 1143–1390 fatalities and 683–824 moderate to serious injuries could be prevented by this regulation. In a two-tiered HIC limit of 800 for side rails, B-pillars and roofs, and 1,000 for A-pillars and headers, the fatality reduction is expected to be in the range of 1365–1614. About 841–1478 moderate to serious injuries are also expected to be prevented if a two-tiered HIC limit is adopted in the final rule.

Mr. CARR. I understand that some of the car manufacturers are concerned about the rules requiring costly redesign of vehicles and that some manufacturers urged that the rules be performance oriented and not stipulate specific designs. Does the proposed rule follow that suggestion?

[The information follows:]

Yes. NHTSA has not proposed any specific designs to meet the proposed requirements. The proposal only contains specifications on performance requirements. However, the agency has demonstrated the feasibility of meeting the proposed requirements in its research program by padding various upper interior components in vehicles. Other means of compliance are allowed and are available.

Mr. CARR. How does your proposal address concerns that additional padding on roof-support pillars would interfere with driver visibility, and therefore become a safety problem?

[The information follows:]

NHTSA is aware that padding the pillars that are closest to the driver's eyes has the potential for obscuring the forward vision because of the increased width of the pillars with padding. Neither the Federal Motor Vehicle Safety Standards (FMVSS) nor the Society of Automotive Engineers (SAE) practices provide requirements concerning forward field of vision. The agency conducted an analytical study to evaluate field of view in sixteen recent popular make/model passenger cars on the basis of obscuration angles. From this study, the agency concluded that appropriately shaped and "clean sheet" energy absorbing padding designs for components would not have a significant effect on the driver's forward field of vision. A detailed discussion on this is given in the Preliminary Regulatory Impact Analysis for FMVSS No. 201 (Occupant Protection in Interior Impact) issued by NHTSA with the proposed rule. NHTSA is further analyzing this issue by using a new methodology and also is evaluating new passenger cars, a pickup truck, and a minivan.

Mr. CARR. What is the proposed effective date of the rule? Does your proposal give the manufacturers sufficient lead time to incorporate necessary roof changes into their vehicle design cycles?

[The information follows:]

In its notice of proposed rulemaking, NHTSA proposed a date of September 1, two years after the publication of the final rule if a single effective data were established for full implementation of the proposed requirements. Since the requirements apply to passenger cars and light trucks, buses and multipurpose passenger vehicles, the agency is also considering a later effective date of three years after issuance of the final rule. Additionally, the agency invited comments on the lead time requirement under a phased-in implementation of the final rule. The agency is currently reviewing all the comments received and will take into consideration the manufacturers' design cycles and lead time requirements before reaching a decision for the final rule.

Mr. CARR. What are your estimates of the increased cost per vehicle that is likely to result from the proposed head impact protection rule?

[The information follows:]

The agency proposed in the Notice of Proposed Rulemaking two separate Head Injury Criteria (HIC) limits. One proposal is for a HIC limit of 1000 for all the upper interior components. The second is for a two-tiered limit of 800 HIC, which is a more stringent criterion than HIC of 1000, for interior components such as side rails, B-pillars and roofs, and a limit of 1000 HIC for A-pillars and roof headers. It is estimated that the average cost for modified vehicles is likely to increase by $29 for passenger cars and by $45 for light trucks, multipurpose passenger vehicles and buses (LTVs) for a HIC limit of 1000. The average cost for the two-tiered HIC limit is slightly higher at $49 for passenger cars and $68 for LTVs.

BELT PROTECTION IN ROLLOVERS

Mr. CARR. Your Priority Plan indicates that rollover crashes are far less frequent than frontal or side impacts, but result in more fatalities and incapacitating injuries per occupant when they do occur. What impact has increased seat belt use had on reducing rollover fatalities?

[The information follows:]

Based on the Fatal Accident Reporting System data, safety belt use saved the lives of an estimated 29,568 occupants in the front seats of light passenger vehicles (that is, in passenger cars, light trucks, passenger vans, and sport utility vehicles) in all types of crashes during the nine years from 1983 to 1991. Rollovers account for about 30 percent of occupant fatalities, and safety belts are especially effective in preventing fatality in rollovers. It is estimated that 9,600 of the lives that were saved by belt use from 1983 to 1991 were in rollover crashes.

HEAD IMPACT RULE BENETITS

Mr. CARR. What is the likely benefit of your proposed rule for head interior protection on rollover crashes, in terms of reduced injuries and fatalities?

[The information follows:]

NHTSA estimates that about 1,400–1,600 fatalities and 800–1,500 moderate to serious injuries could be prevented annually by the proposed rule for head interior impact protection, depending on the Head Injury Criterion limits adopted in the final rule. It is anticipated that about 11 percent of these benefits would come from rollover crashes.

ROLLOVER INJURY RULE

Mr. CARR. In September 1992, NHTSA published a rulemaking plan for rollover injury mitigation in passenger cars, light trucks and vans. Please describe your plan and how you propose to proceed in rulemaking in this area.

[The information follows:]

The problem of light vehicle rollover is multifaceted. The driver, the road conditions, the driving environment, and the vehicle design all play a part in the likelihood of an accident becoming a rollover. Therefore, it will not be possible to mitigate the problem with a single regulation. This is why the rulemaking alternatives and the schedule set forth in the "Planning Document for Rollover Prevention and Injury Mitigation" were developed.

A regulatory decision will be made shortly on the best course of action regarding vehicle stability rulemaking. "Best" means the most physically and statistically defendable approach which is, at the same time, cost effective.

Statistical research is under way regarding the effectiveness of anti-lock brakes.

Research, both testing and statistical study of accident data bases, is needed in the area of roof crush, to determine the role of roof crush in injury causation. Once causation is established, research on countermeasures can begin.

For glass plastic glazing, research will be done in two phases: (1) demonstration of durability and cost feasibility and (2) development of a test procedure.

For improved door latches, research is needed to develop test procedures and countermeasures for each of four failure modes and a cost/benefit analysis will be needed for each proposed countermeasure.

Mr. Carr. What public comments did you receive in reaction to your advance notice of rulemaking on rollover issued last year?

[The information follows:]

Forty-two comments concerning the ANPRM and the Technical Assessment Paper: Relationship between Rollover and Vehicle Factors were received and a Summary of Comments was placed in the docket on September 15, 1992. In general, vehicle manufacturers contend that the driver factors involved in rollover overshadow any contributing vehicle factors, while the consumer safety activist groups believe that statistical studies done by NHTSA and others in the past demonstrate conclusively that vehicle stability should be regulated.

ROLLOVER RULE BENEFITS-COSTS

Mr. Carr. What vehicle design measures do you believe have the greatest propensity for reducing rollover fatalities? Do you have estimates of the potential costs of these measures?

[The information follows:]

The design feature with the most promise for reducing the frequency of rollover crashes is widening the track, that is, the width across the vehicle from the center of the left tire to the center of the right tire. However, doing so could significantly reduce the utility of these vehicles.

Head injuries in rollover crashes occur due to impacts against upper interior components such as pillars, headers, and side rails. It is estimated that approximately 11 percent of all serious head injuries to vehicle occupants occur in rollover crashes. These could be mitigated by padding the interior components to cushion the impacts. Depending on the vehicle type and the injury criteria threshold adopted in the final rule in FMVSS No. 201, "Occupant Protection in Interior Impact," the average cost of modifications may range from $28 to $40 for passenger cars and $45 to $68 for light trucks and vans.

Other countermeasures are being considered, as outlined in the "Planning Document for Rollover Prevention and Injury Mitigation," however the agency does not have benefit or cost estimates for these countermeasures at this time.

ANTI-LOCK IMPACT ON ROLLOVER CRASHES

Mr. Carr. To what extent are you looking at measures to require a minimum vehicle stability performance level or to require anti-lock brake systems to reduce the frequency of rollover crashes?

[The information follows:]

The agency is studying both alternatives extensively. A statistical study has been completed on the relationship between the tilt table ratio (TTR), which is a static measure of stability, and the frequency of single vehicle rollover crashes in 196 make/models of passenger cars, light trucks, vans, and sport utility vehicles. A preliminary cost/benefit analysis has also been done on setting a minimum TTR performance requirement.

The study of the effectiveness of anti-lock brake systems in preventing rollover crashes is continuing. We expect to complete this analysis this summer.

OCCUPANT EJECTION PREVENTION

Mr. **Carr.** Occupant ejection appears to be a significant cause of injury in rollover accidents. What research are you conducting to examine potential responses to address this problem?

[The information follows:]

Research is underway to improve crash survivability in rollover crashes by preventing occupant ejection and by mitigating the severity of impacts that an occupant experiences during rollover.

One effort underway for reducing occupant ejection is directed toward the feasibility of upgrading FMVSS No. 206, Door Locks and Door Retention Components, to reduce door openings and associated ejections.

Another effort for reducing occupant ejection is directed toward the improvement of glazing design. Additionally, this effort is focused on reducing head and other injuries resulting from glazing contact and reducing facial and other lacerations resulting from broken glazing.

MANUFACTURER EDUCATION ON ROLLOVER

Mr. **Carr.** Your rulemaking plan for reducing rollover injuries outlines several public information strategies that could be implemented by NHTSA as well as by manufacturers to address the rollover problem. To what extent have manufacturers already implemented some of these measures, such as video tapes or advertisements that depict the proper and improper driving techniques?

[The information follows:]

Although not focused exclusively or expressly on rollovers, the manufacturers have implemented several measures to educate the public about proper and improper driving techniques. For instance, General Motors sponsored a one hour prime time special on CBS on April 23, 1993, called "The Ultimate Driving Challenge." This show focused on driving tips and strategies to avoid the most common types of collisions including rollovers. Ford delivers a 20 minute video with each of its Explorer utility vehicles, showing proper driving techniques for both on- and off-road situations. Chrysler, Ford, and General Motors have founded the American Coalition for Traffic Safety, the purpose of which is to increase public awareness of the benefits and importance of belt use.

The agency will build upon these voluntary actions by the manufacturers with a coordinated consumer information program specifically focused on the subject of rollover crashes. This consumer information program might include a special focus on rollover crashes in the Operation Buckle Down program, consumer information brochures specifically addressing rollovers and the benefits of belt use, and a televised public service announcement featuring Vince and Larry focusing on rollovers and the benefits of belt use in rollovers. Decisions have not yet been made on the precise contents of our activities. The goals of this consumer information program will be to make sure that the public understands that any vehicle can rollover and that all vehicles do rollover, and that, when rollovers occur, using safety belts substantially reduces the likelihood of death or serious injury. The Big 3 domestic vehicle manufacturers have all pledged cooperation and support for this consumer information program. It should be noted that agency activities in this area will proceed independently of agency decisions on vehicle regulatory actions to reduce rollovers or their consequences.

SCHOOL BUS AGENDA

Mr. **Carr.** Your December 1992 Priority Plan indicates that you are considering a number of school bus safety issues. What is your current agenda with regard to school bus safety?

[The information follows:]

We expect to make a regulatory decision on whether to allow sliding exit windows and on whether to upgrade bus panel strength requirements in Summer 1993. Also, a regulatory decision on whether to continue rulemaking on improving school bus flammability should be made this summer.

The agency issued a Final Rule on wheelchair tiedowns and occupant restraints on January 15, 1993. In February 1993, the agency issued a notice of proposed rulemaking on wheelchair lifts for buses.

SCHOOL BUS LOADING

Mr. Carr. A significant share of school bus-related injuries to school children occur as children are getting on and off school buses. Is NHTSA focusing on improving safety for school bus occupants injured during loading and unloading?

[The information follows:]

Yes. The agency has recently issued two rules which address this problem. In September 1992, a new safety standard, School Bus Pedestrian Safety Devices, became effective. This standard requires that school buses be equipped with a stop arm on the left side of the bus to warn motorists to stop when the school bus is loading/discharging passengers. This rule should reduce the incidence of illegal passing of school buses. Also, in December 1992, the agency issued a final rule updating the requirements for school bus rearview mirrors. This final rule requires that buses be equipped with mirror options that will let the driver see a series of cylinders placed at strategic locations around the outside of the school bus. The amendment makes the rule more performance oriented and assures that school bus mirrors allow the driver to observe students who are close to the sides and front of the bus and thus, in danger of being struck by the bus.

SCHOOL BUS FUEL INTEGRITY/FLAMMABILITY

Mr. Carr. When we had our hearing with the National Transportation Safety Board several weeks ago, the Board indicated that two of the school bus safety recommendations still on its "Most Wanted" list have to do with improved protection for fuel tanks and the flammability of materials used inside the buses. How do you plan to address these concerns?

[The information follows:]

The agency has not yet determined whether, and if so, how, to proceed with rulemaking in these two areas. We expect to make decisions on these issues after a new Administrator is confirmed.

BUS FLAMMABILITY STANDARD COSTS

Mr. Carr. I understand that the potential costs of school bus flammability standards may range from $300 to $900 per bus. What are your estimates of the costs and benefits of imposing a flammability standard?

[The information follows:]

Baed on the information received in comments to the Advance Notice of Proposed Rulemaking, the agency estimates that the cost of upgrading the flammability of a 66 passenger school bus to be $300–$770, depending on the rulemaking option chosen. The agency has not yet determined whether, and if so, how to proceed with rulemaking in this area.

SCHOOL BUS R-BARS

Mr. Carr. A recent Transportation Research Board (TRB) study looked at a type of passenger restraint, called the R-Bar, now being installed on large school buses. The restraint, a swing type padded bar that is attached to the seat back frame in front of the passenger, is pulled down onto the laps of the seated passengers—somewhat like those used in amusement park rides. The TRB identified the following potential safety problems: Instability and poor positioning of the bar could result in intrusion injuries to the upper abdomen, fractures of the lower spine, or crushing injuries to the upper legs.

Have you taken a look at these restraint systems? What is their effectiveness and safety record?

[The information follows:]

Since these restraints are new and have not been used extensively in vehicles, the agency knows of no data to adequately access their safety record. However, the manufacturer of these restraints has requested interpretations as to whether these restraints would comply with the school bus safety standards. The agency has responded with the same concerns as above about the potential for injury to the seat occupants during a crash and has stated that these restraints would have to comply with the school bus safety standards. The manufacturer also requested an interpretation as to whether the restraints could be tested only in the up position, in order to comply with the safety standard. The agency responded that the restraints would have to meet the performance requirements of the standard in all positions.

AIR BAG/SAFETY BELT BENEFITS

Mr. Carr. Several weeks ago, in our public witness hearings, we heard a witness from the American Coalition for Traffic Safety who testified that he believed that a significant reduction in traffic deaths to 30,000 annually by the year 2000 was achievable. He also suggested that he believed the greatest payoffs in reaching this goal will be from increased use of air bags and seat belts, and in law enforcement efforts, rather than simply increasing funding for highway safety programs. How do you respond to that assertion?

[The information follows:]

While we agree that further reductions in traffic deaths are possible, we believe that achieving 30,000 annually in the year 2000 is a very optimistic goal. We agree that substantial benefits would be associated with further increases in safety belt, child safety seats and motorcycle helmets usage. Our estimates are that about 1850 additional lives would be saved each year by achieving a safety belt use rate of 75%. However, the typical highway crash which leads to a fatality is the result of several different factors which come together at one time and a crash results. Our experience has shown that significant additional benefits can be achieved by addressing these causative factors, thereby preventing the crash in the first place or reducing the effects of crashes. For example, nearly half of all fatal crashes involve a drunk driver. Excess speed is involved in about one-third of all fatal crashes. Vehicular improvements will also yield further life-saving benefits. Finally, pedestrians, bicyclists and motorcyclists account for nearly 20% of all traffic fatalities. We believe that the best approach to substantially reducing traffic related deaths is a balanced one which addresses all of the major contributors to the problem.

It is also important to point out that highway safety funding is vital to achieving further progress in all of these areas, including increasing safety belt use and enforcement. Nationally, and in states and communities, highway safety funds provide leadership and programs to achieve national gains in safety belt use, reductions in drunk driving, and other purposes.

SECTION 402 PROGRAM FUNDING REDUCTION

Mr. Carr. In addition to a limitation of $123 million for the Section 402 highway safety grant program, the fiscal year 1994 request includes $35.5 million for alcohol programs (Section 408 and Section 410) and $15 million for the safety belt/motorcycle program (Section 153). Why shouldn't we scale back the Section 402 program, now that these new targeted grant programs are operational?

[The information follows:]

The S. 402 program was designed to allow States and local communities to determine their critical highway safety problems, then design and fund countermeasures to address them. The targeted incentive grant programs act to shift the States' attention from their own needed priorities to those national priority areas where new funds are available. The existence of a healthy S.402 program ensures that States can address important needs in the full range of highway safety program areas.

Also, the S. 402 program ensures that all States will develop and implement highway safety programs. Incentive grant programs only give highway safety funds to States that have already implemented innovative programs or laws. Reducing S. 402 funding in favor of incentive grant funding may leave other States with little or no highway safety support; only 7 States received funding for both Section 410 and 153 last year. The Federal funds are needed to leverage State and local dollars.

GRANT PROGRAM COST-BENEFITS

Mr. CARR. How do you weigh the merits of the various highway safety grant programs? Where can the government realize the most benefit for the next marginal dollar of expenditure?

[The information follows:]

Undoubtedly, the most significant highway safety grant program is Section 402. This program, with its formula funds available to all States, is necessary to ensure that every State will establish and maintain a highway safety program. Furthermore, the State expertise needed to develop and implement programs and laws needed to meet the requirements of the other targeted safety grant programs would not exist without the ongoing Section 402-supported State highway safety staff.

Any additional funding resources should be put in the Section 402 program to maintain and improve every State's Program.

SECTION 402 FINANCIAL LEVERAGING

Mr. CARR. The Section 402 highway safety program has seven National Priority Program areas administered by NHTSA that states must address, including occupant protection, alcohol and drugs, police traffic services, emergency medical services, traffic records, motorcycle safety, and pedestrian and bicycle safety. Rulemaking is pending on the establishment of additional priority areas in the areas of school bus safety and speed. Is the focus of the Section 402 Program becoming so diffused that the program is no longer effective at leveraging federal resources toward the most critical problems?

[The information follows:]

By law, before a section 402 program area can be included in the list of National Priority Programs, NHTSA must first conclude that the program area is "most effective" in reducing accidents, injuries and death. To do this, NHTSA reviews data on deaths and injuries to determine if there is a serious national highway safety problem in a program area. Next, NHTSA's program area analysis and determination are subject to a public rulemaking process.

Given this rigorous process, only critical highway safety problem areas are added to the priority list. All of these designated program areas are deserving of federal resources. Each State then develops a plan for allocating Section 402 funds, selecting from the national list only those priority program areas which address the State's critical safety problems.

MOST EFFECTIVE SECTION 402 PROGRAMS

Mr. CARR. Which program areas have the greatest potential payoff for reducing traffic accidents, deaths and injuries?

[The information follows:]

The priority areas in the Section 402 program are of two types. Activities concerning occupant protection, alcohol and drugs, motorcycle safety, and pedestrian and bicycle safety are directly targeted at reducing injuries and fatalities. If school bus safety and speed are added to the list of priority areas, they too would be concerned with reducing injuries and fatalities. The potential payoff for each of these areas are discussed below in order of relative magnitude of potential payoff. Emergency medical services, police traffic services and traffic records are all in support of the overall highway safety activity and it is difficult to ascribe benefits directly to them.

There are two aspects to potential payoff from a program area: how big is the problem and how successful could one be in solving it. The program areas are of different types and there is not a consistent set of data that can be used to identify these issues for all of the areas. The following discussion considers each program area. Fatality data is used as a measure of the level of safety in each area, the data coming from the 1991 FARS report unless otherwise noted. Where possible, ten year comparisons are made with data from 1982.

Alcohol: In 1991, there were 19,900 alcohol related fatalities, a 20.9% reduction from the 1982 total of 25,165. This is the biggest problem, and considerable progress has been made in solving it. Section 402 was a major catalyst in this significant reduction. Continued Section 402 emphasis on alcohol programs can be expected to continue to make big payoffs.

Occupant Protection: NHTSA estimates that 4,682 lives were saved in 1991 as a result of increased safety belt usage. Without this effect, fatalities would have been 11 percent greater. Safety belt usage would not have increased as dramatically as it did without Section 402 activities. With the advent of an all airbag fleet, it will be even more important to continue the effort in Section 402 activities, as airbags without belts are less effective.

Speed: In 1991, of the 54,323 drivers involved in fatal crashes, 12,185 (22.4 percent) were driving too fast for conditions or in excess of posted speed limits. Although this is not currently a Section 402 Priority area, it is a major traffic safety problem and warrants more attention from the safety community than it has been given in the past.

Pedestrians: Over the past ten years, there has been a decrease of 20.9 percent in the number of pedestrian fatalities, from 7,331 in 1982 to 5,797 in 1991. Although we have made consistent progress in this area, pedestrian fatalities remain nearly 14 percent of the total. There have been a number of successful NHTSA and FHWA Section 402 programs in this area.

Motorcycles: Motorcycle deaths have shown the greatest percentage decrease over the past ten years of all of these programs, 36.9 percent. With magnitude of improvement, and the fairly low number of fatalities in 1991, 2,808, this area must be considered as having less potential than alcohol, occupant protection, and pedestrians.

Pedalcycles: A total of 841 people died in pedalcycle crashes in 1991, down from 883 in 1982. Although this is an area of potential, the relative magnitude of the problem is less than the other activities noted above.

School Bus: In 1991, 17 occupants of school buses died, 2 of whom were drivers. In addition, 31 non-motorists and 86 occupants of other vehicles died as a result of collision with a school bus. This problem is clearly not of the same magnitude as the present priority areas nor of speed in terms of lives lost or societal costs. Agency rulemaking will determine if this should be included as a priority area.

Mr. CARR. What countermeasures have proven effective in addressing each of the seven national program priority areas in the Section 402 program?

[The information follows:]

The following are the primary countermeasures for each priority program area that have evidence of crash or injury reduction:

Alcohol and Drugs: Prompt and certain use of driver license suspension, laws that establish a BAC above which it is illegal to drive (.08 for all drivers), the prompt administrative suspension of the driving privilege for refusing a lawful BAC test request or exceeding a specified BAC limit, and use of sobriety checkpoints. Programs targeting under 21 year old drivers include age 21 drinking laws, lower BAC limits (.02 BAC), provisional licensing, and nighttime curfews.

Occupant Protection: Laws requiring use of seat belts and child safety seats, use of cars equipped with air bags, a strong enforcement program combined with public information and education, and the use of child safety seats.

Police Traffic Services: For reducing speeding, enforcement supported by focused public information and education, training in the proper use of speed enforcement techniques, and the use of advanced technology (police traffic radar, and VASCAR).

Emergency Medical Services: Training for personnel (e.g., First Responder, EMT-Basic and EMT-Paramedic), reliable ambulance transportation, establishing a trauma system, a universal system access number (e.g., 911), and public education on the proper use of the EMS system.

Motorcycle Safety: The mandatory use of motorcycle helmets is very effective in reducing deaths and injuries.

Traffic Records: Traffic records by themselves do not reduce crashes or injuries. However, the National Driver Register is effective in identifying and denying licenses to problem drivers (over 250,000 problem drivers potentially could be denied licenses annually if all States participated). Also, state records identify repeat offenders for sanction and education programs. Traffic records also identify problems at the state and community level and provide a basis for evaluating progress.

Pedestrian and Bicycle Safety: For child and adult pedestrians, effective educational programs include the Willy Whistle Series consisting of "Stop and Look With Willy Whistle" and "Walking With Your Eyes;" the Model Ice Cream Truck Ordinance; and the Bus Stop Relocation program. Bicycle helmets are effective in reducing head injuries to cyclists.

SECTION 402 FUNDING INCREASE RATIONALE

Mr. CARR. You are requesting an increase of $8 million in the fiscal year 1994 obligation limitation for the Section 402 program, for a total of $123 million. That is an increase of about seven percent. What do you hope to achieve with the requested increase?

[The information follows:]

The nation is experiencing significant decreases in highway safety fatalities due to increases in occupant protection use and decreases in impaired driving. Much of the credit for these successes goes to the State highway safety programs funded with Section 402.

However, maintaining this reduction in highway fatalities is becoming more difficult to achieve. Increased Section 402 funding is needed to develop new programs to target the behavior of the hard-core, to educate the new drivers and parents, and to keep the interest of the general public in the importance of improving the nation's highway safety. With the proposed increase in S. 402 funding, the States will be able to maintain their current highway safety program levels and staff and develop programs in the full range of priority areas.

Mr. CARR. Would the additional funding be targeted toward meeting any particular objectives?

[The information follows:]

Each State will decide how to spend the additional funding received, as it prepares its annual highway safety plan. Funds directed to programs in the National Priority Areas will receive expedited approval; funds directed to other program must be supported by a problem identification process. NHTSA will encourage States to target these funds toward integrated occupant protection and impaired driving programs, in order to get a strong start on meeting the Secretary's new national goals of increasing belt use to 75% and decreasing alcohol-related fatalities to 43% by the beginning of 1997.

SECTION 410 RESULTS

Mr. CARR. What results have been achieved under the Section 410 Alcohol Incentive Grant Program?

[The information follows:]

Nineteen states qualified for Section 410 grant funding in FY 1992. For eighteen of these States, FY 1993 is the first year of Section 410 project activities, therefore it is too soon to describe results. Each of these States is using Section 410 funding to support projects designed to reduce impaired driving, such as sobriety checkpoints, retailer and alcohol server training programs, and acquiring videotape equipment for police vehicles.

New Mexico has been the recipient of Section 410 funds in two fiscal years FY 1991 and FY 1992. Assisted by these Section 410 funds, the State's DWI Prevention Task Force created a comprehensive agenda for education, enforcement, and legislative action to prevent and deter impaired driving and has begun actively implementing its recommendations. Through these efforts, the State passed significant legislation in 1993—passing both a law to lower the legal limit to .08 BAC *and* a zero tolerance law for drivers under age 21.

To document results achieved under the Section 410 program, NHTSA is initiating a three-year evaluation of the impact of the process of qualifying for Section 410 grants and of the implementation of Section 410-funded program activities on alcohol-impaired driving.

SECTION 410 IMPACT

Mr. Carr. How many states currently participate in the Section 410 program and what is your assessment of whether the program is providing strong enough incentives for states to strengthen their alcohol education and enforcement activities?

[The information follows:]

Nineteen States are currently qualified for Section 410 funding under the revised regulations developed to implement ISTEA; this includes New Mexico and Indiana which qualified under the "old 410" criteria.

This is the first year of Section 410 funding for all of these States, except New Mexico which is in its second year. Therefore, it is too early to truly assess the effects of the grant program on the State alcohol education and enforcement programs. However, the Section 410 incentive funds each State received can only be used to strengthen its impaired driving programs. Furthermore, to qualify for second year funding under Section 410, each State must show progress in its enforcement and education programs.

NHTSA is initiating a three-year evaluation of the impact of the process of qualifying for Section 410 grants and of the implementation of Section 410-funded program activities on alcohol-impaired driving.

SECTION 410 OVERSIGHT

Mr. Carr. One of the criteria that a state must meet in order to obtain a basic grant under the Section 410 program is that the state must have an effective system for preventing drivers under the age of 21 from obtaining alcoholic beverages. However, the recent NTSB findings indicate that few states have effective programs to prevent underage drivers from obtaining and consuming alcohol. In fact, the Surgeon General has characterized state minimum age drinking laws as riddled with "loopholes, laxity, and lip service."

What kind of oversight do you give to the Section 410 program to ensure that states are meeting the criteria spelled out in the law?

[The information follows:]

To qualify in the first year for Section 410 funds using the criterion concerning programs for drivers under age 21, a State must issue drivers' licenses to individuals under age 21 that are easily distinguishable in appearance from drivers' licenses issued to individuals age 21 or older. In addition, the State must provide:

A description of how the state is providing information to under age drivers about drinking and driving.

A description of the state's program for alcoholic beverage retailers regarding on and off premise consumption.

A description of the state's overall enforcement strategy directed at under age drinking, including the sale and purchase of alcoholic beverages.

A description of the state's program to prevent under age drinking, including how it enlists the aid of minors, and the public information program regarding the consequences of under age drinking.

To qualify for second and subsequent year Section 410 grants, a State must provide an updated plan for conducting the program to prevent drivers under age 21 from obtaining alcoholic beverages, which meets all of the requirements described above.

In addition, the States' second and subsequent year applications must provide information documenting that their prior year plans to prevent under age drivers from obtaining alcohol were effectively implemented. NHTSA's Regional Offices provide effective oversight, to review these documents carefully and ensure that States are meeting the criteria as provided by law.

SECTION 153 EFFECTIVENESS

Mr. CARR. The Section 153 Safety Belt and Motorcycle Helmet Incentive Grant Program uses a "carrot and a stick" approach to promote state passage of effective safety belt and helmet use laws. What evidence do you have that this approach is working?

[The information follows:]

A significant amount of safety belt and motorcycle helmet legislative activity has taken place since the enactment of Section 153. In FY 1992, 17 safety belt or motorcycle helmet bills were introduced and, in FY 1993, 22 bills were introduced.

To date, five States have enacted safety belt or motorcycle helmet laws since the inception of the program:

Safety Belt Laws: Nebraska, North Dakota, West Virginia, and Vermont.

Motorcycle Helmet Laws: Maryland.

In addition, both Ohio and Connecticut amended their existing safety belt use laws to remove unacceptable air bag exemptions.

GRANTS BASED ON BELT USE

Mr. CARR. GAO suggested in its May 1992 report on safety belt use laws that variable grants (and/or penalties) based on a sliding scale of safety belt use rates could provide all states with a financial incentive to improve use rates. Would such a program provide better incentives to the states to maximize safety belt use, and could NHTSA administer the program if the legislation was changed accordingly?

[The information follows:]

NHTSA believes that the current incentive/penalty design has not been in effect long enough to suggest that some other approach may be better. Significant gains in usage rates are being recorded by the States under the current program. However, if legislation was changed to redesign this portion of the program and reward States for percentage point improvements, NHTSA could administer the program.

SECTION 153 USAGE REQUIREMENTS

Mr. CARR. The "carrot" in the program is that a state may receive a second year grant if the state achieves a seat belt usage rate of 50 percent and a motorcycle helmet use rate of 75 percent, and a third year grant if a state achieves a seat belt usage rate of 70 percent and a motorcycle helmet use rate of 85 percent. As of December 1992, 14 states had already reached the 70 percent seat safety belt target. Did Congress set the goals in this program too low?

[The information follows:]

NHTSA believes that the goals of the program were not too low and that the goals must be within reach to motivate all States. Safety belt use of 50 percent was ahead of most States in FY 1992, the first year of the Section 153 program. Most States increased their use rates in 1992 to 50 percent or greater, spurred by the incentive grant program and the National 70% by 92 Program.

However, reaching 70 percent usage rates is much more difficult. In December 1992, only 7 States eligible for Section 153 grants had reached the 70 percent safety belt usage rate. To expect many more States to increase from 50 percent in one year to 70 percent in the next year is quite ambitious. It is reasonable to expect annually 4–5 percentage points of improvement up to the 60–70 percent range. After this point, it is more difficult to achieve the same rate of improvement. Therefore, we would like to reward States for meeting the current goals of S. 153, especially for achieving the 70 percent level.

Mr. Carr. Should Section 153 be amended to reflect the new goal of 75 percent belt use recently announced by the Department?

[The information follows:]

NHTSA believes it is too soon to change the requirements of Section 153. The program has only had one year to operate, and its effect on belt use rates has yet to be determined. Further, NHTSA believes the 70 percent goal is a reasonable goal for most States at this time. Only 14 State have been able to reach that level to date. The Secretary's new goal of 75 percent belt use is targeted for the beginning of 1997.

SECTION 153 SANCTIONS

Mr. Carr. Legislation has been discussed in Congress to repeal these penalty provisions.Do you believe that would be prudent?

[The information follows:]

The agency does not recommend the repeal of the penalty transfer provision of section 153. Currently 28 States are in non-compliance. In FY 1992, 17 bills were introduced to enact complying laws; 2 States (Maryland and Nebraska) passed the legislation required to comply. In FY 1993, 22 bills were introduced to enact complying laws; 2 States (West Virginia and Vermont) passed the legislation required to comply.

NHTSA believes State legislators will not enact these laws until they really believe there will be a transfer of highway funds if they do not act. The agency believes that the transfer, once implemented, is significant enough to provide States an impetus to enact the relevant laws without much delay.

STATES SUBJECT TO SECTION 153 PENALTIES

Mr. Carr. Please provide in the record a list of those states you project would become subject to the penalty clause in fiscal year 1994.

[The information follows:]

Twenty-eight States do not comply and will be subject to a transfer of funds in FY 1995 if they do not have both laws in effect by the beginning of FY 1994 (October 1, 1993).

The States that do not have both conforming laws are:

Alaska
Arizona
Colorado
Connecticut
Delaware
Hawaii
Idaho
Illinois
Indiana
Iowa
Kansas
Kentucky
Maine
Massachusetts
Minesota
Montana
New Hampshire
New Mexico
North Dakota
Ohio
Oklahoma
Rhode Island.
South Carolina.
South Dakota.
Utah.
Vermont*.
Wisconsin.
Wyoming.

*Vermont's new safety belt law does not go into effect until 1/1/94. Therefore, the State will not comply as of 10/1/93.

SECTION 153 FUNDING INCREASE

Mr. Carr. What is the expected impact of providing an additional $3 million for the Section 153 program in fiscal year 1994, as proposed in the President's budget?

[The information follows:]

A slightly increased funding level is requested in order to reward States which meet their third and final year of incentive grant requirements. By law, States may receive up to 90 percent of their FY 1990 Section 402 apportionment over the 3 years of Section 153 grants. Due to available funding, only 21 percent was awarded to grantees in FY 1992, and a similar percentage is expected in FY 1993. For States which have met all requirements since the Section 153 program began in FY 1992, FY 1994 will be the final year of grant funds; however, they must be able to achieve a 70 percent safety belt use rate. The promise of increased funding may encourage more States to increase their efforts and push toward the need 70 percent rate.

STATE BELT USE SURVEYS

Mr. CARR. In 1992, NHTSA abandoned its annual survey of safety belt and helmet use in 19 cities and you now rely on states to survey restraint use.States reported in 1991 noticeably higher use of safety belts than reported in NHTSA's previous 19-city survey. What is your level of confidence in the integrity and validity of state-reported safety belt use rates?

[The information follows:]

The agency believes that a population-weighted average of state-reported use rates provides a more valid estimate of national safety belt use than the 19-cities survey. This estimate is based on input from every state, not just the 16 states represented by the 19 cities survey. This estimate covers rural as well as metropolitan areas. Further, the agency has confirmed that 18 states, the District of Columbia, and Puerto Rico (comprising about 58 percent of the U.S. population) now utilize probability-based surveys which meet Section 153 guidelines. In addition, information from another 13 states (comprising another 25 percent of the U.S. population) indicates that their surveys are also probability-based.

Mr. CARR. Now that Section 153 grant funding to the states is contingent on their meeting certain targets for safety belt use, states have an incentive to inflate their usage rates. What kind of oversight do you have in place to verify that states are properly conducting these surveys and not inflating their results?

[The information follows:]

In June 1992, the agency published guidelines for the conduct of safety belt and motorcycle helmet use surveys that are to be used to demonstrate compliance with Section 153 incentive grant eligibility requirements. These guidelines specify minimum design standards, including requirements that the surveys be probability-based and that the variance of the usage estimates be within prescribed bounds. The guidelines also require that states submit both their survey designs and a summary of the data collected for agency review. The agency has established a review committee to examine these submissions and verify compliance with the published guidelines.

Mr. CARR. How many people are involved at NHTSA in verifying the accuracy of the state surveys, and how many state surveys and the underlying methodology have been reviewed?

[The information follows:]

An agency committee has been established for the purpose of reviewing state surveys for compliance with the published survey guidelines. The committee consists of seven members—two members from Research and Development, three from Traffic Safety Programs, and one each from Plans and Policy and Regional Operations. To date, the committee has reviewed survey designs submitted by 27 states. Twenty of these have been determined to comply with the guidelines.

SECTION 153 GRANT DENIALS

Mr. CARR. Do you anticipate that any states will be denied Section 153 grant funds in fiscal year 1993 because they did not meet the 50 percent target for safety belt use and 75 percent for motorcycle helmet use?

[The information follows:]

To date, no States have applied for FY 1993 Section 153 grants and been denied because they did not meet usage rates.

Mr. CARR. How many states and which ones?

[The information follows:]

Since all eligible States have not applied for second year funding at this date, NHTSA cannot be certain of the number of States that will be unable to achieve the

50 percent goal. However, in December 1992, the Department released a list of State Safety Belt Use Rates (which were not all computed using NHTSA-approved survey guidelines as required for Section 153 compliance). On that list, 2 of the 17 States eligible to apply for second year section 153 grants in FY 1993 did not have 50 percent belt usage—Mississippi at 24 percent and Louisiana at 47 percent.

NIGHTTIME SAFETY BELT USAGE SURVEYS

Mr. CARR. What steps have you taken to address the issue that the state surveys include only daytime observations of safety belt use, but not nighttime usage which could be lower?

[The information follows:]

The agency remains convinced that, at this time, the most important change that can be effected in state seat belt surveys is to ensure that they are conducted according to scientific, probability-based protocols. We have made great strides in this direction over the past year. Because of the difficulty in observing nighttime seat belt use, daytime use is used internationally as the primary index of seat belt usage. This is true in the United States as well.

This does not mean that daytime usage is identical to nighttime usage. We know from limited studies that nighttime usage is somewhat lower. However, the practical and political problems involved in conducting such surveys are considerable. Imposing requirements upon the states to conduct nighttime surveys at this time would have an adverse impact on their willingness to comply with federal guidelines. It would also likely result in a negative public reaction to the use of high technology devices to peer into vehicles at night.

We plan to conduct exploratory studies to better estimate how much lower nighttime usage is and to determine the practicality of using new technology, on a limited basis, to observe belt use in low light conditions. It is anticipated that we can develop a correction factor for nighttime belt use that can be applied to existing statewide estimates.

TYCO TOY LICENSING

Mr. CARR. How much has NHTSA received and how much do you expect to receive as a result of the licensing arrangement with Tyco Toys? Please provide specific details for the record, including the financial details, on the licensing arrangement for Vince and Larry.

[The information follows:]

In connection with the TYCO effort, NHTSA received $15,951.11 from the Entertainment Industries Council (EIC) for the credit of the U.S. Treasury. TYCO obtained its rights to use Vince and Larry through the EIC, a non-profit group promoting public interest issues in partnership with the entertainment industry. NHTSA licensed EIC to seek innovative private sector placements for Vince and Larry, subject to NHTSA's approval of all uses and products to ensure that safety belt messages would be conveyed. EIC agreed to pay NHTSA six percent of all revenues received in the exercise of its license rights, a fee which is consistent with that charged by the U.S. Forest Service for Smokey Bear licenses.

No other payments are anticipated, as EIC's and TYCO's rights have expired. Please note that NHTSA does not measure the success of Vince and Larry in terms of licensing dollars received. The agency has often licensed the characters without charge for non-profit uses, in order to promote the safety belt message to wider audiences. The TYCO for-profit effort was approved with a nominal fee because it targeted a new audience of children with safety belt messages on packaging materials and in the play action of the toys (e.g., working safety belts and airbags), and provided parents with brochures on the proper use of child safety seats.

The agency's public service announcement program remains strong. In 1992, the value of contributed radio coverage alone was over $48 million. For the seven-month period from September 1992 through March 1993, contributed television coverage reached just under $5 million.

Mr. CARR. Some apparently believe that the credibility of the safety message of Vince and Larry characters has been compromised by this licensing arrangement. Since the toy dummies easily fit back together after breaking apart in "play" crashes, these toys may teach young children a false message that no permanent damage is done to vehicle occupants in a crash. Do you plan to use the characters in public service ads after the contract expires?

[The information follows:]

There have been claims that the beliefs of young children may be adversely affected by the toy dummies. The agency is not aware of any scientific studies of children's reactions to Vince and Larry that would support such claims. What evidence there is indicates that the crash dummies are universally recognized, not as role models to be emulated, but as dummies who lose their arms, legs, and even their heads because they don't wear safety belts. In that sense, the toy dummies are no different than the ones appearing, and reappearing on television. The message for young children and the young at heart is that you don't want to be a dummy or end up like a dummy; therefore, you should buckle up.

The Vince and Larry campaign continues to be very popular with the public and the media gatekeepers in local television markets. In addition, it is receiving extensive play on radio stations and in various publications. The agency does plan to continue featuring Vince and Larry in its public service advertising on behalf of seat belts.

NCAP PROGRAM IMPROVEMENTS

Mr. Carr. In its report on the fiscal year 1992 budget, the Senate Appropriations Committee directed NHTSA to develop methods to enhance the usefulness of the NCAP to consumers. In addition, the committee asked you to determine the validity of NCAP test data in predicting actual "real world" crashes, and to address the efficacy of allowing automobile manufacturers to choose between the Hybrid II (low tech) and the Hybrid III (high tech) dummies for NCAP testing. Last year, you submitted a plan to address these directives.

Please update the Subcommittee on the status of your efforts in this regard.

[The information follows:]

In response to the first part of your question, the agency has enlisted the help of media experts to suggest improvements in promoting NCAP and is using consumer focus groups to evaluate the impact of new NCAP presentation methods on the car-buying public. In support of these activities, the agency awarded $50 thousand in contracts to develop advertising themes for radio and news media and to continue the production of videos for television. A $100 thousand contract has been awarded to conduct approximately 15 related focus group studies. The media studies contractor has developed and recorded several NCAP promotional announcements for possible radio use and has designed poster boards for use as potential news print promotions. These are being evaluated in the focus groups which will be completed in May 1993.

The agency has analyzed the current NCAP database and has proposed a new format which incorporates the various suggestions from the Appropriations Committees. This new format and the presently used press release format are being compared and evaluated by the focus groups.

In addition, experts in the agency's public affairs office are conducting a survey of the automobile and general media in the Washington area and those that have routine direct contacts with the agency. Meetings and discussions are being conducted with editors from magazines, such as Kiplinger's and Consumers' Report, and newspaper, radio, and TV media. This survey will assist in determining what additional improvements can be made to the NCAP information that will motivate the media to promote it.

With regard to part two of the question, analyses have been completed to determine the validity of NCAP test data in predicting actual "real world" crashes. These analyses show significant correlation between NCAP test results and overall fatality risk in frontal crashes.

In response to the last part of the question addressing the efficacy of allowing automobile manufacturers to choose between the Hybrid II (low tech) and the

Hybrid III (high tech) dummies, the agency has issued a Federal Register notice which announces the agency's desire to establish the Hybrid III as the only testing device to be used in NCAP. The agency has also issued a Notice of Proposed Rulemaking which will require mandatory use of the Hybrid III dummy in compliance testing for the occupant protection standard in the mid to late 1990's. Analyses of comments received to these Notices and of the NCAP test data will be used to explain the differences between the two dummies and the effect that these differences may have had on the NCAP results.

Studies which report on all three of the directives enumerated in this question will be completed and provided to Congress by November 30, 1993.

NCAP: CONSUMER USE

Mr. CARR. What evidence do you have that consumers actually use NCAP results in their purchasing decisions?

[The information follows:]

The agency has not conducted any surveys on consumer purchasing decisions and thus does not have any direct evidence relating NCAP to vehicle purchase choices. However, the popularity of the program and the use of the data by many organizations provide indirect evidence of the program's usefulness. The agency believes the attention paid to the program by the media, consumer groups, insurance companies, and automobile manufacturers, themselves, indicates that consumers desire this type of safety information. Since the data are sought after, it is logical to assume that it is also used, as consumers shop for vehicles.

The largest dissemination of NCAP data occur as follows:

NCAP data are made available through regular press releases as the tests are completed. These press releases are distributed to all the major news services, consumer groups, magazines, and many other associations. Over 1000 different organizations with readership in the tens of millions receive these press releases.

Consumer Reports, a popular publication of Consumers Union (CU), annually uses the NCAP data in a special issue on automobiles. In discussions with CU editors, it was verified that this annual automotive issue is consistently the most popular issue published by CU. The sales of their annual issue exceed over five million copies. CU also confirms that they receive extensive consumer response to the automotive safety articles which are based on the NCAP results.

The "Car Book", originally published by the Department of Transportation in 1980, is now published each year by Jack Gillis of the Consumer Federation of America. This publication also uses the crash test data from NCAP tests as the principal source of safety information. Sales of the "Car Book" average approximately 75 thousand per year.

The United Services Automotive Association (USAA) Foundation, the nation's sixth largest insurer of motor vehicles, publishes a very comprehensive booklet, "The Car Guide", which provides its members with information regarding passenger safety, damageability, theft risk, and insurance experience of various vehicles. The safety information is based on the NCAP test results. "The Car Guide" is distributed annually to USAA's approximately two million members.

The exposure to the public of the NCAP data through the different media also results in many individual inquiries to NHTSA. The Agency responds to approximately 20 thousand telephone calls each year through the NHTSA Hot Line regarding the crashworthiness test results.

NCAP SIDE IMPACT TESTS

Mr. CARR. Some manufacturers argue that the flat barrier test used by NCAP reflects relatively few real-world crashes, a significant proportion of which are offset or side impact crashes. Please update us on your efforts in studying the potential for expanding NCAP to include a side impact crash test to better represent the crashes people actually experience.

[The information follows:]

Frontal crashes account for approximately 40 percent of the fatalities which occur to drivers and occupants of passenger cars. The NCAP frontal test configuration is based on the occupant crash protection standard (FMVSS No. 208). This configuration is a full-frontal crash into a fixed-rigid barrier.

National Accident Sampling System (NASS) data provide insight into the relationship of real-world crash configurations to NCAP and FMVSS No. 208 test conditions. These data indicate that most of the real-world frontal crashes which result in serious or life-threatening injury are head-on with damage across the full front of the vehicle. Based on these data, the FMVSS No. 208 and NCAP test configurations reflect approximately 80 percent of the real-world frontal crash configurations which result in a large majority of the injuries and fatalities.

Side impact crashes account for approximately 30 percent of the fatalities that occur to occupants of passenger cars. The agency is presently completing developmental testing to select an appropriate side-impact test condition. All information for this selection will be available by July 1993. The side-impact NCAP test configuration which is being considered by the agency for implementation in FY 1994 could provide consumers information on this second most harmful crash condition. The test configuration for this side-impact NCAP is based on the side-impact occupant protection standard test conditions with a five mile per hour higher impact velocity. Data from this testing would provide consumers with information which covers approximately 50 percent of the serious injury-causing events and 30 percent of the fatalities which occur in side crashes.

Mr. Carr. What is included in your fiscal year 1993 and proposed fiscal year 1994 budget for side impact testing?

[The information follows:]

In FY 1993, Congress provided $620 thousand to complete the steps necessary to establish the requirements and procedures for a possible new side-impact NCAP. These included the crash testing of 11 different models to determine a reasonable crash severity level, to assure that testing, instrumentation, and test device performance are consistent, and to assure that the initiation of a side-impact NCAP will not degrade safety by unduly stiffening the vehicle. Results to date from these activities indicate the feasibility of a side-impact NCAP.

Based on the potential that a positive decision to proceed with this program will be reached, the FY 1994 NCAP will be enhanced by initiating side impact consumer information testing. $600 thousand will be used for side impact testing of approximately 15 passenger cars under this new NCAP test procedure. The resulting data from these tests on side impact crashworthiness will be made available to consumers.

NCAP: INCREASED VEHICLE TESTING

Mr. Carr. You are requesting $2.460 million in fiscal year 1994 for NCAP and propose to expand the number of vehicles tested from 36 to 39. Why do you believe that this expansion is justified?

[The information follows:]

Frontal crashworthiness testing and reporting on approximately 39 motor vehicles is budgeted for FY 1994. This is an increase of two vehicles over the FY 1993 program. With the continuing rapid change by the manufacturers to include safety improvements (airbags and better structures) in their passenger cars, light trucks, vans, and sport utility vehicles, the agency needs to test as many vehicles as possible to maintain the most up-to-date comparative information for use by consumers in their purchasing decisions.

Mr. Carr. What will be the additional costs related to testing additional vehicles?

[The information follows:]

Vehicle and test costs are approximately $35 thousand for each additional test.

NCAP: VEHICLE COMPARISON VALIDITY

Mr. Carr. In your NCAP results, you recommend that comparisons be made of vehicles within an approximate weight range of 500 pounds. Let's look at your recent test results for the Dodge Stealth compared with the Dodge Dynasty. Head injury scores for the Dodge Dynasty are approximately two and one-half times as great as for the Dodge Stealth: 273 versus 674. Do you believe that the NCAP test represents the actual difference in safety among the vehicles tested? Is the risk of serious head injury really two and one-half times higher for occupants of the Dodge Dynasty than for occupants of the Dodge Stealth?

[The information follows:]

Although the risk of serious head injury increases with head injury criterion (HIC) scores, the relationship is not a linear one. Below HIC values of 1000, the risk of serious injury is low, but at HIC values about 1000, the risk of injury increases rapidly. Thus, the range of performance represented by the head injury scores of these two vehicles does not, in our opinion, constitute any significant difference in the potential for serious head injury.

In the NCAP tests, both the Dodge Stealth and the Dodge Dynasty with very similar curb weights indicate the potential to provide exceptional protection for restrained drivers in high-speed frontal crashes. Each vehicle is equipped with a driver airbag and the head injury score is significantly below the 1000 level which is required in the lower severity crash test of the occupant protection standard. The agency has attempted to convey this to consumers by the following statements in the press releases, "The Head Injury Criterion (HIC) is a measure of the potential for injury to the head of a car's occupant in a frontal crash, usually when the head contacts a hard object such as the steering column or instrument panel. Someone experiencing a HIC of 500 or less most likely will have little or no head injury. At a HIC of 1000, about 1 in 6 occupants may have either a life-threatening skull fracture or brain damage requiring immediate medical attention. At a HIC of 2000 or more, nearly all crash victims may experience life-threatening head injuries with a high probability of death or long-term disability."

Based on curves produced by industry scientists relating the risk of serious head injury to HIC values in hard surface impacts, a HIC of 273 translates into a one percent probability while a HIC of 674 equals about a five percent probability. However, the risks in both cases are extremely low, illustrating the superior performances of these vehicles.

NCAP: UNSATISFACTORY TEST RESULTS

Mr. CARR. When you observe poor test results for a vehicle to what extent do you further research the safety of that vehicle?

[The information follows:]

Extensive analyses are performed on NCAP results of each vehicle, particularly the "poor" test results. In most cases, the agency finds that NCAP results are dependent on the performance of the restraint system, steering assembly, intrusion control, and structural design. It is the complete safety system, and not one component which provides occupant safety. Through discussions and data exchange, a manufacturer is made aware of the agency's findings. The agency notes that the manufacturers often make vehicle changes to improve NCAP performance after these discussions.

In other cases, where performance may be related to a possible defect, involving broken parts, voluntary recalls have occurred. The most recent recall involved a General Motors vehicle in which the upper safety belt anchorage deformed and cut the belt in the NCAP test. General Motors voluntarily recalled several hundred thousand vehicles and replaced the defective part. Earlier recalls involved a 1980 Subaru GLF, a 1983 Ford Escort, and a 1984 Ford LTD wagon.

In the Subaru GLF, the latching plate for the safety belt failed during the crash test. It was concluded that poor quality control had allowed improperly stamped latching plates to be used in the belt system. The Subarus were recalled and the defective latching plates were replaced.

In the 1983 Ford Escort, carpet staples had inadvertently been used to attach the rear carpet directly over the fuel tank. In the NCAP test, fuel leakage was discovered. Ford recalled 2,800 vehicles and corrected the hazard.

In the 1984 Ford LTD wagon, the safety belt anchorage attachment failed in the 35 mph crash test. Ford recalled 530,000 vehicles to correct an improper attachment design.

The agency notes that "poor" NCAP scores alone do not signify an unsafe or defective vehicle and thus no safety/defect investigation is warranted unless further research supports the existence of a safety problem.

NCAP: DODGE DYNASTY SAFETY

Mr. CARR. Have you found any indications other than the NCAP test, such as data from the manufacturer, police reports, or insurance company experience, that the Dodge Dynasty is not as safe as other vehicles in its class?

[The information follows:]

No. The agency notes that the NCAP test results indicate the potential of the Dodge Dynasty to provide exceptional protection for restrained drivers in high-speed frontal crashes. The vehicle is equipped with a driver airbag and the head injury score is significantly below the 1000 level which is required in the lower severity crash test of the occupant protection standard. Based on these data the Dodge Dynasty is expected to be as safe as other vehicles in its class.

NHTSA STRATEGIC PLANNING

Mr. CARR. Last year, NHTSA established a strategic planning office and initiated a strategic planning initiative to improve the agency's capability, flexibility, and responsiveness in meeting future motor vehicle and traffic safety challenges. As part of this process, you solicited in the Federal Register comments and suggestions from a wide range of individuals and organizations. Can you tell us what you have learned?

[The information follows:]

The *Federal Register* notice elicited views from more than 100 individuals and organizations that will be helpful to NHTSA in setting its future direction and goals. Thirty-one questions were asked in the notice. A brief summary of what we learned follows:

Future Factors and Issues: Respondents agreed on several issues: (1) the aging population will be a major factor in highway safety and, to a lesser degree, immigrants and second-generation Americans; (2) the Intelligent Vehicle Highway System (IVHS), the call for improved vehicle safety design, the corporate average fuel economy (CAFE) regulations and alternative fuels, and international harmonization will guide the automobile and traffic engineering in the future; (3) an increased disparity in vehicle mix coupled with increased vehicle population density could increase crash risk and severity; and (4) the economy will affect all areas of highway safety from those identified above to the provision of law enforcement and emergency medical services (EMS), roadway maintenance, etc.

NHTSA's Role and Mission: Respondents generally agreed that their relationships with NHTSA are positive. However, some commentors observed that the cooperation fluctuates with the political climate. More coordination with FHWA was cited as being necessary. A few respondents recommended that NHTSA and FHWA be merged. It was suggested that coordination with FHWA be extended to include closer cooperation with the automotive industry in eliminating incompatibilities between vehicles and roadside safety hardware. Several comments were submitted encouraging NHTSA to streamline its processes (e.g., eliminate duplication of materials, attend to numerous and sometimes competing regulatory actions). Broadening NHTSA's role to include more of the original 18 highway safety standards was also recommended, as was the development of an on-line clearinghouse of highway safety information and data.

TQM AT NHTSA

Mr. CARR. We have heard a lot in the last few months about "reinventing government". What are you doing to improve the way you do business? Are you implementing any TQM practices?

[The information follows:]

Through its strategic planning and participation in the National Performance Review, NHTSA is exploring how it can improve the way it does business. The *Federal Register* notice on NHTSA strategic planning included several questions soliciting input on how it can better serve its constituents. Many helpful suggestions were received in response to those questions. The Strategic Planning Division is also conducting interviews with NHTSA staff and various NHTSA constituents to determine how it can improve those relationships and their utility.

To solicit opinions and ideas from NHTSA employees on how the agency can improve the way it does business, an electronic survey is currently under development. As part of the National Performance Review, the agency is using existing strategic planning task forces to look at how it can improve efficiency and customer service. The agency is currently practicing some TQM principles such as organizing teams of NHTSA staff to address issues pertaining to rulemaking issues, human resource issues, information resource management, and so on.

STRATEGIC PLANNING: PRIVATE SECTOR SUPPORT

Mr. CARR. The justifications indicate that the strategic planning process will be used to determine if there are ways that the private sector can be encouraged to reduce or eliminate the federal government's role in some activities. Can you elaborate on what you have in mind?

[The information follows:]

Because resources are limited and NHTSA wants to make the most efficient use of those resources, the agency believes that it is imperative to identify ways the private sector can be encouraged to work with the Federal government to advance traffic and motor vehicle safety.

NHTSA has traditionally used several alternatives to regulation. Our cooperative research programs are designed to pool the expertise of all sectors that can contribute. The market incentives programs are designed to give consumers the information they need to make their own decisions on safety in purchasing cars and light trucks. We also actively participate in a number of Society of Automotive Engineers committees and other standard setting activities.

One specific example that is briefly cited in the agency's budget justification is the regulation of motor vehicles. The agency plans to examine the feasibility of having voluntary consensus standards organizations develop and update motor vehicle standard. While the agency would still play an integral role in the standard setting process, it would not do so in a vacuum.

The agency's Network of Employers for Traffic Safety (NETS) is a current example of how the private sector can be encouraged to provide resources to support traffic safety. Since its inception in 1989, NETS has been instrumental in influencing hundreds of public sector organizations in updating impaired driving and safety belt usage policies in the workplace. Beginning in October 1993, the NETS Coalition is scheduled to assume full financial support from the federal government for administrative operation of the program.

NATIONAL PERFORMANCE REVIEW

Mr. CARR. How will the strategic planning effort interface with activities conducted under the National Performance Review being conducted by Vice President Gore?

[The information follows:]

There is a direct interface between the agency's ongoing strategic planning activity and the National Performance Review (NPR). NHTSA's Strategic Planning Division is leading and coordinating NHTSA's participation in NPR. The structure that has been put in place to conduct the agency's strategic planning provides the basis for the agency's NPR efforts. This approach is reflected in the workplan that NHTSA has developed to guide its participation in the NPR. Internal NHTSA task forces that were formed as part of our strategic planning are also being used to address the NPR core issues. Information gathered as part of strategic planning will serve as valuable reference material for these groups in developing the agency's input to the NPR.

Mr. CARR. What NHTSA employees have been formally designated to provide input to the National Performance Review and how were they selected? What activities have you undertaken to date?

[The information follows:]

NHTSA employees have been formally designated to provide input to the National Performance Review (NPR) at both the Departmental and agency level. NHTSA selected four employees to serve on the Departmental level NPR task forces. These employees are: Marilena Amoni, a Policy Advisor to the Associate Administrator for Traffic Safety Programs; Mike Perel, a Research Engineer in the Office of Crash Avoidance Research; Ernestine Scott, a Safety Defects Analyst in the Office of Defects Investigation; and Jim Downey, a Highway Safety Specialist in NHTSA's Region V office. These employees were selected from a number of nominees that were submitted by the NHTSA Associate Administrators. These employees were selected not only because they are very competent and experienced, but also because they offer diverse backgrounds and areas of expertise.

At the agency level, the Strategic Planning Staff has been formally designated to lead and coordinate NHTSA's NPR effort. In addition, approximately 40 NHTSA employees who currently are serving on strategic planning issue teams are also being designated to serve on the agency level NPR task forces. To date the agency has prepared its workplan for carrying out its role in the NPR and has briefed those employees who will participate in the effort.

STRATEGIC PLANNING STAFFING

Mr. CARR. How many FTE are allocated to the strategic planning office?

[The information follows:]

There are four FTEs allocated to the strategic planning office.

REGIONAL OPERATIONS EFFECTIVENESS

Mr. CARR. In 1991, you established a separate headquarters operation for regional operations and we discussed that a bit last year. Would you update us on whether that reorganization has proven to be effective, and whether it has improved the accountability and productivity of NHTSA's regional offices?

[The information follows:]

The reorganization which established a separate office for regional operations has proven to be very effective. The goal of this re-organization was to expand the role of the regions in the implementation of highway safety priority programs, to ensure that the requirements of program end users, the States and communities, were reflected in national highway safety planning efforts, and to streamline administration of the 402 and other incentive grant programs. Regional Operations has had significant successes in all of these areas.

The role of the regions in implementing highway safety programs has expanded dramatically since the reorganization. For example, they have assumed full responsibility for managing the delivery of all NHTSA-sponsored training to their States. Their increased involvement in training delivery has resulted in more than a 150 percent increase in the number of individuals trained in such topics as standardized field sobriety testing (SFST), drug evaluation and classification (DEC), occupant protection enforcement, highway safety program management. More than 2,400 individuals were trained in the quarter ending March 30, 1993 alone. The regions have also taken on a new role in providing direct assistance to their States in the planning and implementation of a wide range of state and community public information and media activities in support of national campaigns in impaired driving and occupant protection.

The reorganization has resulted in a deliberate effort to more thoroughly involve the States and the Regions in the planning and development of national highway safety initiatives such as the national occupant protection program. State and regional input has altered the way the agency delivers programs, designs materials, and works with national organizations.

Finally, the reorganization has enabled the agency to concentrate staff resources on grant administration in order to successfully launch two new grant programs and award $20.2 million in section 153 and 410 grants, within nine months of passage of ISTEA. Additionally, the agency awarded $20 million in Section 408 grants, the entire amount appropriated for FY 1992.

REGIONAL OPERATIONS RESPONSIBILITY

Mr. CARR. What are the differences in responsibilities between the Regional Operations and the Traffic Safety Program offices?

[The information follows:]

The Traffic Safety Program office is responsible for the development, demonstration and evaluation of the highway safety program through Section 403, and the implementation of highway safety initiatives through national organizations.

Regional Operations is responsible for implementing highway safety programs through the administration of the Section 402, 408/410, 153 and other incentive grant programs, and for promoting and supporting implementation of Agency priority programs through State Highway Safety Offices.

The two offices work closely on establishing national priorities and goals for Agency programs, coordinating State level and private sector implementation efforts, and tracking progress against priority plan milestones.

Regional Operations obtains input from and serves as an advocate for State highway safety programs during the development of Agency priority programs. Once the programs are developed, Regional Operations, working through the regional offices, markets these programs to the States and provides the resources needed to implement them. Similarly, Traffic Safety Programs works closely with the private sector organizations involved in highway safety, to obtain their input on the design of new initiatives and to support their participation in program implementation efforts.

REGIONAL OPERATIONS BUDGET

Mr. CARR. Funding for the Office of Regional Operations and the Office of Traffic Safety Programs is combined in your budget documents. What would be the advantages and disadvantages of submitting separate budgets for the two offices?

[The information follows:]

The agency has explored the issue of a combined/separate budget for the Regional Operations (NRO) and Traffic Safety Program (TSP) areas and believes that continuing with a combined budget is appropriate.

The NRO program is designed along functional rather than programmatic lines i.e., activities (training, technology transfer, and implementation support) cut across and support all of the program areas addressed in the highway safety budget. Thus, activities can be considered elements in each of the program areas rather than as a stand-along budget entries. Program review, including consideration and establishment of priorities, could be done programmatically rather than separately as activities. Unless specified otherwise, the priorities for the NRO budget would match the priorities for the TSP budget, i.e., an increase or decrease in priority and/or budget allocation would affect NRO and TSP in relative proportions.

Mr. CARR. What procedures have been established to prevent duplication and overlap between the functions of the two offices?

[The information follows:]

Regional Operations and Traffic Safety Programs work closely at all levels to insure close coordination of program activities and to avoid duplication of effort.

The goal of the two offices is to provide a smooth transition from concept development and test in headquarters to successful program implementation in the field. For example, Traffic Safety Programs developed and tested a curricula for child passenger safety technical workshops. Regional Operations staff provided field input to the design of the curricula and worked with TSP to design an implementation strategy for delivering these workshops. Once the pilot test was completed, TSP turned over responsibility for delivery of the workshops nationwide to Regional Operations.

To avoid duplication of effort between the two offices, the two Assoicate Administrators meet frequently to set program development and implementation policies, to plan joint initiatives and to review progress in priority areas. The Program Implementation staff of Regional Operations works closely with each of the program offices in TSP to provide input from the field on the development and evaluation of new programs and to develop program delivery and implementation strategies.

As a final safeguard against overlap or duplication of efforts, the two offices sign off on each other's procurement actions.

PERSONNEL FTE REDUCTIONS IN NHTSA

Mr. CARR. President Clinton's Executive Order requires all executive branch agencies with over 100 employees to reduce FTEs by 4 percent by fiscal year 1995, with three-fourths of that reduction to occur by the end of fiscal year 1994. However, your budget justifications show a reduction of only 7 FTEs in fiscal year 1994 below the fiscal year 1993 level. It appears that NHTSA may be taking a smaller FTE reduction than some of the other modes.

Are you implementing any FTE reductions in fiscal year 1993?

[The information follows:]

Yes. The agency has implemented a hiring freeze. When vacancies occur, most of the vacancies are not being filled. Employment is steadily declining each month. By the end of fiscal year 1993 we expect that on-board employment will be significantly below the level reported at the end of fiscal year 1992.

Mr. CARR. How was the 7 FTE reduction in fiscal year 1994 determined?

[The information follows:]

In order to implement President Clinton's Executive Order to require reductions in the number of Federal positions, the Office of Management and Budget assigned target reduction levels to each Federal department. The Department of Transportation, in turn, assigned target reduction levels to individual modes within the department.

A reduction of 7 full-time equivalent (FTE) staff-years was assigned to NHTSA for FY 1994. This reduction is applied to the staffing resources used for the entire year.

It is expected that reductions will occur during the year as attrition takes place, so the staff level at the end of FY 1994 will be lower than at the beginning of the year. If the departures take place, on average, during the middle of the year, it will be necessary for the agency's staff to decline by 14 by the end of fiscal year 1994 in order to achieve an average savings of 7 FTEs for the entire year.

Mr. CARR. In what program activities will the 7 FTE reductions be taken?

[The information follows:]

The reduction will be made as a result of attrition. When vacancies occur during FY 1994, some of the positions will not be filled. At this time, however, the agency does not know where the vacancies will occur or, when they occur, which ones will not be filled. The reduction in staffing could take place in a variety of NHTSA program areas, and it could be made in full-time permanent positions (FTPs), other than full-time permanent positions (OTFTPs), or non-ceiling employment.

ADMINISTRATIVE EXPENSE REDUCTION

Mr. CARR. In discussions with some of the other modes, we have learned that the 3 percent reduction in fiscal year 1994 administrative expenses called for by the President is really a 3 percent decrease below a 1993 base adjusted by a 2.7 percent inflationary increase. So, the 3 percent administrative cost reduction is really a net reduction of 0.3 percent in administrative expenses in fiscal year 1994, correct?

[The information follows:]

Your understanding is correct. The inflation adjustment provides for calculating a current services baseline level, and the 3 percent reduction is a real reduction from this baseline. In the case of NHTSA, the FY 1993 appropriation included $10.181 million for operating expenses, which was $1.778 million lower than the request amount. When the $10.181 million is inflated by 2.7 percent, this provides a baseline amount of $10.456 million. When the baseline is reduced by 3 percent, the resulting FY 1994 level is $10.142 million.

PUBLICATIONS DISTRIBUTION REVIEW

Mr. CARR. In our report on the fiscal year 1993 transportation appropriations bill, the Committee directed that NHTSA review its distribution lists for publications to determine whether existing publications are being efficiently distributed, and to consider modest user fees, where justified. What have you done to carry out this directive?

[The information follows:]

The Office of Research and Development in concert with the General Services Division conducted a publication mailing list purge during CY 1992. This resulted in mailing list addressees dropping from 14,000 to 7,000, a drop of 50%. Plans are in place to periodically update the list to assure that it is kept current.

With respect to the Agency's new technical journal, *Auto & Traffic Safety,* its purpose is to give wide dissemination within the motor vehicle and highway safety community to highlights of research results. After the first two or three issues have been published, it should be practical to set up a subscription list and charge a nominal amount to defray some of the costs.

REAR-FACING CHILD SEATS

Mr. CARR. NHTSA recently issued a proposed rule that rear-facing child safety seats be labeled with a clearly visible warning against using them in a front seat of a car equipped with an air bag. Your press release, however, indicated that NHTSA knew of no such injuries that had occurred to children in rear-facing seats. What led you to reach the conclusion that regulations were needed?

[The information follows:]

The results of the agency's research program to determine the effects of air bags on child restraint systems confirmed the existence of potential negative interaction between air bags and certain child restraint systems. As a result of the findings of this research, the agency issued a "consumer Advisory" on December 10, 1991 to warn parents about using rear-facing child seats in vehicle seating positions equipped with air bags. Even though no injuries of such an interaction have been reported to date, the agency, manufacturers of child restraints and motor vehicles, and safety advocates, believe that regulation is needed to inform and warn consumers of this potential problem. Results from tests independently-performed by manufacturers of motor vehicles confirm the agency's findings.

SAFETY BELT USAGE DEMOGRAPHICS

Mr. CARR. According to the National Safety Belt Coalition, more women (63 percent) than men (51 percent) indicated in a survey that they always use a seat belt. The same survey also indicated that drivers of Japanese cars have the highest seat belt usage rates (69 percent), followed by European cars (63 percent) and American cars (55 percent). Have these findings been validated by NHTSA's own research?

If so, what do you know about the reasons for these differences in use rates between men and women, and among drivers of different types of automobiles?

[The information follows:]

Yes. Virtually every study that we (or others) have conducted consistently show the same relationships. These results are obtained in both observational and self-report surveys.

A person's choice to use a seat belt is closely tied to his or her individual perceptions of the risks involved in driving and the consequences of crash involvement. People perceive different risks among different driving situations. For example, people who drive smaller cars report greater perceived risks than those who drive larger cars. Also, increased belt use is consistently related to higher educational attainment, job status, and income—characteristics that may be related to a greater sense of the losses as a consequence of a crash.

The Agency's observational data confirm auto makers' reports that women are much more likely than men to drive smaller cars. Other research shows that female drivers perceive greater risks and perceive them more accurately than do males. Higher belt use rates among women are most likely related to a combination of driving smaller cars and more appropriately assessing risks.

Until recently, Japanese cars were typically much smaller than U.S. cars. Higher belt use rates in Japanese cars are most likely related to the size of the car and perceived risks of driving smaller cars. However, size alone does not account for all differences: in NHTSA's 19-City Survey, lower usage rates were observed in American subcompact cars relative to Japanese subcompacts. Other issues involving perceived risk may account for these remaining differences. Newer Japanese models have been targeted at those demographic groups that also typically show high belt use.

Higher belt use among drivers of European cars is probably related to either to car size (e.g., Volkswagen, Renault) or to the demographics of ownership (e.g., Volvo, BMW).

Safety-belt use laws appear to increase belt use by men and women to about the same degree.

OLDER DRIVER TESTING

Mr. CARR. Based on traffic safety and accident data, several states have implemented more rigorous testing (vision, road, written) for drivers over a certain age. Has NHTSA studied the effectiveness of these programs?

[The information follows:]

No. While some states do provide special licensing options for a limited number of older drivers, NHTSA is not aware of any states that have implemented systematic assessment procedures that improve the accuracy of their ability to detect problem older drivers. In fact, it is the absence of such tests and procedures that drives NHTSA's research program.

DRIVER EDUCATION AND TESTING

Mr. CARR. Are more rigorous federal efforts needed to work with states to implement age-based driver education and testing?

[The information follows:]

Yes. However, as presented in the Agency's updated traffic safety plan for older persons, the Agency must first develop more rigorous testing programs for identifying defined groups of older drivers in the license review and renewal process. The agency must also determine what information older drivers, their care givers, the medical community and law enforcement officials need to have about older driver safety. These projects lead to development of improved licensing and educational programs for implementation by the States. NHTSA will work closely with the States to ensure adoption of these programs.

DRUG OFFENDER LICENSE REVOCATION

Mr. CARR. What is the status of NHTSA's rulemaking to implement the drugged offenders license revocation law?

[The information follows:]

NHTSA and FHWA published the final rule on August 12, 1992, to implement the Department of Transportation's Appropriations Act for 1991 which requires the withholding of certain Federal-aid highway funds from States that do not: (1) enact legislation requiring revocation or suspension of an individual's driver's license upon conviction for any violation of the Controlled Substances Act or any drug offense; or (2) submit a statement by the governor that he or she is opposed to the enactment or enforcement of the law and resolution by the State legislature expressing its opposition to such law.

To date, 22 States, the District of Columbia and Puerto Rico have submitted compliance documents for review; 19 of the submittals have been approved and 5 others are under review. The official submissions are from:

- Alaska (2)
- Florida (1)
- Idaho (2)
- Maine (2)
- Minnesota (2)
- Mississippi (1)
- Missouri (2)
- Montana (2)
- Nebraska (2)
- Nevada (2)
- New Mexico (2)
- North Dakota (2)
- Rhode Island (2)
- South Dakota (2)
- Tennessee (2)
- Utah (2)
- Vermont (2)
- Virginia (1)
- Washington (2)
- West Virginia (2)
- Wisconsin (1)
- Wyoming (2)
- District of Columbia (1)
- Puerto Rico (1)

(1) or (2) denotes compliance options described above.

Twenty-eight States have not yet complied with the requirements. However, States have until September 30, 1993, to comply before highway funds are withheld. All but one State have submitted draft language for review and have received NHTSA's guidance on how to comply.

TRUCK UNDERRIDE PROTECTION RULE

Mr. Carr. NHTSA recently issued a final rule covering truck underride protection guards. Please provide a copy of your report to the Senate concerning underride issues in the record and briefly discuss how NHTSA addressed concerns that the proposed 22-inch guard height would be inadequate to protect passengers in small cars.

[The information follows:]

The agency has not yet issued a final rule covering heavy truck rear underride protection guards. We are currently responding to the comments to our proposal.

The agency requested and received permission to extend the date for its response to Senate Report No. 102-351's request for a report on the subject from March 1993 to summer 1993. The agency's letter requesting a time extension for submission of the report to Congress cited additional time needed to complete research addressing questions raised in comments to the Supplementary Notice of Proposed Rulemaking of January 1992.

To date, the agency has conducted seven full-scale crash tests with a heavy truck rear underride protection guard designed to comply minimally with the requirements proposed in the January 1992 notice, including the 22-inch maximum ground clearance specification. The agency is currently analyzing the results of these crash tests.

HIGHWAY SAFETY—KEY DEMOGRAPHIC AND SOCIAL INFLUENCES

Mr. Carr. What are some of the key demographic and social influences on highway safety?

[The information follows:]

The age and gender distribution of the travelling population has a major influence on highway safety. Peak rates of involvement in crashes occur in the late teen-early twenty age range and in the post 70 age range. The younger group has been a decreasing portion of the population for several years, but will be increasing by the end of the decade. The older group will be increasing dramatically for the foreseeable future.

In the past, the rate of involvement for females in crashes was much lower than for males. This is still true, however, the female rates are increasing while rates for males have been more constant. There is evidence that people with fewer years of education and people from households with lower incomes have higher rates of involvement in motor vehicle crashes.

Another important social influence is the overall national movement toward more healthy life-styles. Possibly as a result of this, the automotive manufacturers are "selling" safety to a public more interested in such a message. Drinking and driving has become much less socially acceptable, and wearing safety belts has become more so.

AUTOMOBILE SIZE PURCHASING TRENDS

Mr. CARR. In recent years, consumers seem to be purchasing larger and less fuel efficient vehicles. What short- and long-term trends in automobile size and mix do you foresee, and how will these trends affect highway safety in the future?

[The information follows:]

With the sharp decline in fuel prices (after adjustment for inflation) since the mid-1980s, new vehicle purchasers have shifted towards slightly heavier, larger, and more powerful cars and light trucks. For example, NHTSA estimates that the average model year (MY) 1992 car weighed over 200 pounds more than the average MY 1988 car (average equivalent test weights of 3,307 pounds and 3,100 pounds, respectively). There also has been a shift towards more mid-size and large cars, although the average interior volume of new cars has changed very little (108 cubic feet in MY 1992, versus 107 cubic feet in MY 1988 and 109 cubic feet in MY 1987). The average MY 1992 light truck weighted 282 pounds more than the average MY 1988 light trucks, and 372 pounds more than the average MY 1987 light truck (average equivalent test weights of 4,169, 3,887, and 3,797 pounds, respectively).

The average horsepower/weight ratio for cars has risen 33 percent since MY 1981; for light trucks, this ratio has risen 26 percent since MY 1984 (the earliest year for which we have this data). This does not mean, however, that vehicle performance necessarily has increased by these amounts; with the increased use of 4-valve-per-cylinder engines (particularly for passenger cars) that develop their peak power at higher engine speeds, horsepower/weight ratios need to increase to maintain low-engine-speed performance.

Future trends for these variables, and their implications for safety, are difficult to project. Lower fuel prices and a strong economic recovery probably would lead to the purchase of larger, heavier, and more powerful vehicles. Higher fuel prices and a weaker economy probably would have converse effects. NHTSA analyses have concluded that, all else being equal, larger and heavier vehicles would enhance highway safety. A number of analysts have argued that higher horsepower/weight ratios for the fleet as a whole would lead to negative safety implications; however, no NHTSA analyses have been performed demonstrating such a link.

AUTO DESIGN: ENVIRONMENTAL IMPACT

Mr. CARR. What changes in vehicle design, technology and vehicle use do you anticipate as a result of environmental considerations?

[The information follows:]

A combination of computer-aided design and manufacturing (CAD–CAM) and a new philosophy of design and management will make the car of the future much more responsive to consumer and societal concerns. These include ease of manufacture and repair, higher quality, better use of materials including recyclability. Most cars will probably continue to have some type of internal combustion engine, but it could be a two stroke cycle engine. Engines and transmissions will be smaller, lighter, cleaner, and more efficient.

A move to lighter vehicles will likely result in stricter fuel conservation measures are implemented in the future. Vehicle weight reduction is possible through lighter materials, e.g., aluminum, composites, high strength steel, and plastics. These weight reductions could have adverse safety implications.

Higher new vehicles prices due to more stringent emissions and fuel economy standards may dampen vehicles sales, resulting in older vehicles remaining longer in the fleet. As a result it would take longer for safety features to be fully incorporated into the fleet, and the population of poorly or marginally maintained vehicles could increase. These changes could also have adverse safety implications.

In the short term, the transportation sector cannot easily switch to alternative fuels, e.g., compressed natural gas, alcohol fuels, and electricity, due to the lack of a developed infrastructure and the need for further progress in alternative-fuel vehicle R&D. However, the development and use of alternative fuels will be spurred by national and State legislation on energy and the environment. Such legislation is expected to lead the way in changing the composition of transportation fuels, stimulating development of alternative-fueled and electric vehicles, improved fuel economy, and a more efficient transportation system.

Electric vehicles are not expected to become a major part of the vehicle fleet before 2010 unless there are dramatic improvements in battery technology. Reformulated gasolines are becoming common, and further improvements in the characteristics of gasoline are probable. A number of alternative fuels—methanol, denatured ethanol, other alcohols, liquid natural gas (LNG), liquid petroleum gas (LPG), compressed natural gas (CNG), hydrogen, coal-derived liquid fuels, and fuels derived from biological material—are competing for acceptance as alternatives to gasoline. Although one or more alternative fuels may gain niche markets, none is likely to gain a significant fraction of the light motor vehicle fuel market unless there are substantial supply and price problems with gasoline. Even if alternative fuels become more common, they are not likely to affect the basic characteristics of vehicles.

FUTURE ROADWAY AND VEHICLE TECHNOLOGIES

Mr. Carr. What changes do you envision in roadway and vehicle-related technologies and how might they affect highway safety in the future?

[The information follows:]

Improvements in pavement conditions, horizontal and vertical alignment, lane width, and barriers and crash cushions will improve safety. For example, new developments in concrete barriers that are less likely to roll a small car are being implemented. Several Intelligent Vehicle Highway Systems (IVHS) improvements for roadways have the potential to improve safety. Examples of roadway/infrastructure IVHS technologies that will produce safety benefits are: real time information for route selection; traffic control systems such as ramp metering, traffic signal coordination, and variable speed limit signs; and rapid detection and clearing of crashes.

The most significant advances in vehicle design, function, and operation of vehicles will come from the incorporation of advanced electronics, computer technology, sensors, and communications. These are currently used for engine and transmission control and for comfort and control features. In the future they are expected to be used to improve crash avoidance capability, route planning, and other applications that come under IVHS. Some of the IVHS technologies that will have the greatest impact on vehicle technology as it relates to safety are: in-vehicle crash avoidance and roadway departure warning systems, vehicle lane position monitoring systems, vision enhancement for nighttime and inclement weather and systems to enhance emergency medical service response. All of these technologies will have a positive impact on safety.

SPEED ENFORCEMENT AND EDUCATION

Mr. Carr. NHTSA statistics indicate that increased speeds cause an increase in fatalities. What are you doing, beyond the promulgation of speed enforcement regulations, to educate the public about the dangers of excessive speed and to encourage greater enforcement of posted speed limits?

[The information follows:]

Speed enforcement—exceeding the posted speed limits and driving too fast for conditions—continues to receive priority attention from NHTSA. The Department's emphasis on speed enforcement is focused in several areas: working with and assisting national organizations, public information and education, demonstration projects, and providing technical assistance.

The speed enforcement and research program is intended to address the speed related crash problem, provide more efficient techniques for enforcement, and identify the most dangerous driving behavior.

The Agency has published a guide for sheriff's which provides traditional traffic enforcement with increased criminal interdiction.This program has been expanded to several additional states. A public information workshop is under development for use by law enforcement. New public service announcements explaining the dangers of speed will be produced and distributed. A demonstration project to assist municipal agencies to combat speed related problems will be initiated.

NHTSA will complete the development of model performance specifications and testing protocols for automated and laser speed measurement devices. Existing testing laboratories at universities used by law enforcement agencies to ensure reliability and accuracy of speed measuring devices will be upgraded to test new technology. Training curricula will be developed to support the use of this new equipment.

To better understand the speed problem, the Agency will continue to analyze fatal and serious injury crashes for speed involvement and collect data from near crash events to determine how speed contributes to hazardous driving situations. Further, NHTSA will continue to identify specific population groups that are most likely to speed and specific behavior patterns that are unsafe.

Additionally, the Department is charged by ISTEA to develop two significant rules: the first to make speed a priority highway safety program, and the second to develop a compliance formula, monitoring plan and penalties for noncompliance on national maximum speed limit highways.

SIDE IMPACT REQUIREMENT

Mr. CARR. What is NHTSA doing with regard to the extension of passenger car side impact requirements to light trucks, buses, and multipurpose passenger vehicles? What are the key issues involved and what are the likely costs to consumers of your possible regulations in this area?

[The information follows:]

Over the last several years, the agency has extended various passenger car standards to light trucks, buses and multipurpose vehicles (LTVs). These included rules to require automatic occupant protection, rear seat lap/shoulder belts, side door beams, center high-mounted brake lamps, head restraints, and improved roof crush resistance. In the same manner, the agency, on June 5, 1992, published an Advance Notice of Proposed Rulemaking to extend the dynamic passenger car side impact chest protection requirements to LTVs. The agency is currently reviewing the comments received in response to the questions raised in the notice. The key issues involved are:

The safety problem in LTV side crashes is small compared to passenger cars, and therefore LTVs are generally perceived as relatively safe. Only 250 side crash fatalities and 850 serious chest injuries are likely to occur annually during the late 1990's.

The impact conditions that simulate real world LTV side crashes are different from those in passenger cars in terms of the height and weight of the striking vehicles. If the current passenger car impact conditions are adopted, the safety benefits that may result are likely to be negligible.

The seating heights of LTVs vary widely depending on the type and size of the vehicle. Additional research may be needed to develop suitable test procedures and countermeasures to mitigate chest injuries in LTVs, and to estimate consumer costs.

ROOF CRUSH RESISTANCE STANDARDS

Mr. CARR. In January, NHTSA delayed the effective date of a final rule extending roof crush resistance standards to light trucks by one year to September 1994. What were the reasons for the delay, and what are the safety impacts of the decision?

[The information follows:]

A November 14, 1991, letter to the agency from the Recreation Vehicle Industry Association (RVIA) spoke of the difficulties it foresaw for some of its members, most of which are small businesses, in meeting the roof crush resistance requirements. This is because of the varying physical characteristics and roof configurations of the second stage units in van and motor home conversions. The agency extended the effective date by one year to allow these small businesses more time to assess how they would comply with the standard. The agency felt this would accommodate RVIA's concerns and the special needs of small businesses, which have lesser financial resources. The agency believed that the effective date could be extended without compromising safety, since there is already widespread voluntary compliance among single stage light truck manufacturers, which constitute approximately 95 percent of the light trucks subject to the rule.

RULEMAKINGS AFFECTING LIGHT TRUCKS AND VANS

Mr. CARR. What other significant rulemakings affecting light truck and van safety do you plan in the near future?

[The information follows:]

To the extent feasible and where the data support rulemaking, the safety of light trucks and vans is being considered simultaneously with passenger vehicles in the rulemakings on head impact injury, rollover prevention and mitigation, mandatory airbags, improved braking performance, and improved safety belt design.

AIR BAG AND AUTOMATIC BELT RETAIL COSTS

Mr. CARR. For the record, please update the data on air bag and automatic belt costs, as shown on page 790 of last year's hearing record.

[The information follows:]

Retail price estimates for automatic belts and air bags are not available, as they are generally sold as standard equipment. Two sets of cost estimates are provided below. The first updates (for inflation) the agency's original estimates from its 1984 final rule mandating automatic restraints. The second set of estimates is from "tear down" studies of new models performed by a contractor for NHTSA in 1992. When more than one model of a specific type of restraint system was evaluated for its cost in the "tear down" report, a range of estimates is provided. The agency has not decided which cost estimates it will use in the future.

INCREMENTAL COST

[1992 dollars]

	1984 Final rule estimates	"Tear down" estimates
System:		
Manual belts	[1]	[1]
Automatic belts (non-motorized)	49	27
Automatic belts (motorized)	207	none
Air bag (driver only)	310	169 to 304
Air bag (driver and right front passenger)	450	282 to 410

[1] Base.

NEW AIR BAG TECHNOLOGIES

Mr. CARR. Can you update us on any new technological developments to improve the effectiveness and safety of air bags?

[The information follows:]

The agency envisions a number of advancements that will improve the effectiveness and safety of air bags. Technology that has been developed for defense applications in target recognition is being studied for its potential for use in precrash sensing. Such capability would provide a new generation of air bag deployment schemes that in turn would lead to air bag systems that could be tailored for specific crash scenarios and ultimately improved occupant protection. Other technology is being developed that would lead to improved inflators. Hybrid methods using pyrotechnics and stored gas are being explored for improved inflation techniques. Staged inflation also is being explored and could be used to tailor the air bag inflation according to the severity of a crash. Advancements also are being explored in the air bag itself. New weaving concepts that provide controlled porosity could lead to improved air bag crash energy management.

FUEL INTEGRITY STANDARD

Mr. CARR. NHTSA has issued a notice requesting comments on upgrading the fuel integrity standard's performance requirements to reduce the number of post-collision fires. Can you tell us about the status of your rulemaking on this issue?

[The information follows:]

The agency issued a Request for Comments notice in the *Federal Register* on December 14, 1992. The notice stated that "NHTSA is considering initiating rulemaking to upgrade the protection currently provided by Federal Motor Vehicle Safety Standard No. 301, Fuel System Integrity." The comment period for the notice closed on March 5, 1993.

The agency has received 27 comments on the notice. Based on these comments and previous research work, the agency is preparing an action plan which will include further accident data analyses in defining the crash environment in which fires occur, crash tests to identify possible problems and solutions to the prevention of fires, possible regulatory initiatives, and schedules for these initiatives.

SPEED LIMIT ENFORCEMENT—NATIONAL COMPLIANCE FORMULA

Mr. CARR. NHTSA and FHWA have issued a notice of rule making to propose a national compliance formula to measure state speed limit enforcement. Please describe how the proposed formula would work.

[The information follows:]

The notice of proposed rulemaking required by ISTEA was jointly issued by NHTSA and FHWA on December 18, 1992. The development of the national performance formula (which includes fatality and severity measures) and compliance scores take into account the relative risk of each type of roadway. This allows the States flexibility to direct enforcement efforts for both compliance and safety benefits on national maximum speed limit highways. Further, each highway type (55 mph freeway, 55 mph nonfreeway and 65 mph freeway) is measured by the number of vehicles exceeding three speed categories (5, 10 and 15 miles over the posted speed limit) to assess greater weight for higher speed violations.

As proposed, the States will monitor both 55 and 65 mph roads on a scientifically random basis to determine the number of vehicles exceeding the posted speed limit. These numbers will be used in the formula to determine each states score. Under this proposal, a State exceeding the maximum allowable compliance scores would be found in noncompliance and penalized up to one and one-half percent of certain highway construction funds (excluding Interstate construction funds).

If a State has a fatality rate at least twenty percent lower than the national fatality rate, the proposed rule would forgive one third of the penalty.

RULEMAKING COMMENTS ON COMPLIANCE FORMULA

Mr. CARR. Please provide for the record a summary of the comments to the proposed rulemaking that you have received.

[The information follows:]

A total of 77 comments were received from Governor's Highway Safety Representatives, individuals, law enforcement officials and professional organizations, special interest groups and State transportation departments. The comments were divided into a number of areas, with many of them supporting the proposed rule as being fair and equitable, and the recommended changes are not expected to create any adverse impact on their operations.

A summary of the principal issues include: assessing penalties for subsequent years that a state is found to be in noncompliance; why the government was proposing the rule; and, the complexity of both the compliance formula and monitoring plan. Several comments were received favoring a State-by-State standard rather than the national compliance formula proposed in the rule. Numerous comments questioned the complexity of the national compliance formula and the elements used in the calculation. Concerns were raised regarding the specific types and quantity of data to be collected.

Comments mainly from state departments of transportation were submitted regarding the proposed monitoring plan, specifically the location of monitoring sites, number of monitoring sessions and the ability to implement the monitoring plan by October 1, 1993.

The overall transfer penalty for noncompliance was questioned. The commenters also questioned the amount of the penalty being transferred, the use of transferred funds and mitigation of penalty.

Finally, there were a few comments seeking technical clarification for such items as roadway definitions and eligible roadways.

HIGHWAY CRASHES INVOLVING HEAVY TRUCKS

Mr. CARR. Would you update us on the recent trends in highway crashes involving heavy trucks?

[The information follows:]

Between 1984 and 1988, the number of heavy trucks (Gross Vehicle Weight Rating of 26,000 pounds or greater) involved in fatal crashes varied within a range of about 4,400 to 4,550. Since that time, the number of heavy trucks involved in fatal crashes has been declining as follows: 4,314 in 1989, 4,148 in 1990 and 3,671 in 1991.

SAFETY BENEFITS OF ANTILOCK BRAKES

Mr. CARR. What are the anticipated safety benefits of requiring antilock brakes on medium and heavy trucks? What are the costs?

[The information follows:]

The agency estimates that requiring antilock brakes on medium and heavy trucks would prevent 35,000 crashes, up to 27,000 vehicle occupant injuries, 350-550 fatalities, and more than $500 million in property damage, annually.

The estimated total annual cost of requiring antilock brakes on medium and heavy vehicles is $1 billion, or approximately $2,300 per vehicle.

HEAVY TRUCK ANTILOCK BRAKE RULEMAKING PRIORITY

Mr. CARR. Last year, you told us that rulemaking on heavy truck antilock brakes was a high priority for rulemaking. NHTSA-sponsored studies have demonstrated favorable results regarding the use of antilock brakes on truck tractors. You issued an advanced notice of rulemaking last year and your Priority Plan indicates that a decision on whether to proceed with a notice of rulemaking will not occur until this summer. Why is it taking so long for you to complete rulemaking in this area?

[The information follows:]

The comments to the Advance Notice of Proposed Rulemaking were extensive, and the development of the proposed test procedure and definitions took longer than expected. The agency expects to issue a Notice of Proposed Rulemaking for heavy vehicle antilock braking systems early this summer, and complete the rulemaking by the end of the year, in conformance with the legislatively-mandated schedule.

AMERICAN TRUCKING ASSOCIATION ANTILOCK BRAKE PROPOSAL

Mr. CARR. The American Trucking Association (ATA) has recommended a voluntary phase-in period for trucking companies to phase anti-lock brakes into their fleets, with mandatory compliance starting in the year 2000. From your perspective, what are the pros and cons of the ATA proposal?

[The information follows:]

We are pleased that ATA recognizes the benefit of antilock brakes and agrees that they should be standard equipment on new trucks, buses, and trailers. However, we believe that ATA's recommendation of a voluntary phase-in now, and mandatory compliance starting in the year 2000, would unnecessarily delay the benefits that could be realized if heavy vehicles were equipped with antilock brakes sooner. The agency believes that the industry would not equip new vehicles with antilock brakes on a large enough scale to realize the safety benefits unless they are required by the agency to do so.

The agency has proposed a phase-in of antilock brakes based on vehicle configuration. This proposal would require heavy vehicles to be equipped with antilock brakes based on vehicle configuration and according to the following schedule:

Truck tractors—2 years after final rule, Trailers and dollies—3 years after final rule, Single unit trucks—4 years after final rule, Buses—5 years after final rule.

The agency believes that this proposed schedule would give vehicle manufacturers sufficient lead time to equip their vehicles with antilock brakes. In addition, the proposed implementation schedule requires antilock brakes initially on the vehicle configuration (truck tractors) that would provide the largest safety benefits and that has the largest production volume, so that economies of scale could be realized.

ANTILOCK BRAKING SYSTEMS MANDATE

Mr. CARR. What would be the safety impact of delaying a mandate for antilock braking systems on new commercial vehicles?

[The information follows:]

The safety impact of delaying a mandate for antilock brakes on new heavy vehicles would be that the estimated benefits of preventing 29,000 crashes, 12,000 vehicle occupant injuries, 400 fatalities, and $123 million in property damage, annually, would not be realized.

HEAVY VEHICLE BRAKING PERFORMANCE IMPROVEMENTS

Mr. CARR. What other measures is NHTSA considering to improve the braking performance of heavy vehicles?

[The information follows:]

The agency is also conducting rulemaking to reinstate stopping distance requirements on heavy vehicles. This rulemaking would improve the stopping capability of heavy vehicles and the braking compatibility between tractors and trailers.

In October 1992, the agency published a final rule requiring automatic brake adjusters on heavy vehicles. This requirement will be effective October 20, 1994, and is expected to improve heavy vehicle braking performance because the automatic brake adjusters will keep the brakes in proper adjustment.

SIGNIFICANT RULEMAKINGS IN 1993 AND 1994

Mr. CARR. Please provide for the record a specific timetable for your significant rulemakings in 1993 and 1994, and also include those that have been requested by automobile manufacturers.

[The information follows:]

DESCRIPTION	ACTION	TIMETABLE
Consider measures to improve the braking stability and control performance characteristics of heavy vehicles	NPRM Final Rule	June 1993 Dec. 1993
Extend antilock brake system to passenger cars	ANPRM Next Regulatory Decision	Dec. 1993 Aug. 1994
Establish a new hydraulic brake standard to harmonize with international standards	Final Rule	Dec. 1993
Reduce head injuries due to contact with upper vehicle interior	Final Rule	Dec. 1993
Permit use of 35% transmittance window film on side and rear windows of passenger cars	Final Rule	Dec. 1993
Mandatory use of air bags in passenger cars	Final Rule	Sept. 1993
Improve seat belt design	NPRM Final Decision	Nov. 1993 July 1994
Booster seats requirements for child restraints	NPRM Final Decision	July 1993 July 1994
Alternative test dummies (BIOSID/EUROSID)	Final Rule	Aug. 1993
Extend dynamic testing to light trucks	NPRM Final Decision	Oct. 1993 July 1994
Upgrade small school bus body joint test procedures	Final Rule	Oct. 1993

Requirements for compressed natural gas (CNG) and propane fuel systems	Final Rule	Jan. 1994
Requirements for wheel chair lifts used on motor vehicles	Final Rule	Dec. 1993
Fuel Economy standards for MYs '96-97 light trucks	Final Rule	Mar. 1994
Performance requirements for underride protective devices	Final Rule	Sept. 1993
Rollover propensity of light duty vehicles	NPRM Final Decision	Sept. 1993 Mar. 1994
Domestic Content Labelling	NPRM Final Rule	June 1993 Mar. 1994
Improved school bus flammability	NPRM Next Regulatory Decision	Jan. 1994 Aug. 1994

None of the above actions were requested by automobile manufacturers.

RULEMAKING COST AND LEAD-TIME ANALYSES

Mr. CARR. On Page RM–6 of the justifications it is indicated that $150,000 will be required for cost and lead-time analyses in fiscal year 1994. What specific rulemakings will be supported with these analyses, and how are these analyses conducted?

[The information follows:]

Unless higher priorities surface, it is intended that this quick reaction funding amount will be used for contract cost and lead-time studies to support improved side impact protection for light truck occupants, and passenger car and light truck anti-lock brake rulemaking. These analyses will be conducted by an independent contractor experienced in automotive industrial engineering and process cost estimation. The contractor will estimate the direct labor, direct material, and variable overhead costs of each proposed safety countermeasure and all components within. NHTSA will apply internally developed, markup rates to arrive at estimated retail price impact to the buyer.

AMERICAN AUTOMOBILE LABELING ACT OF 1992

Mr. CARR. What activities are required under the American Automobile Labeling Act of 1992?

[The information follows:]

The American Automobile Labeling Act requires automobile manufacturers to post vehicle domestic and foreign content labels on passenger vehicles, including light trucks, on or after October 1, 1994. NHTSA held a public meeting on December 17, 1992, to receive oral comments on the regulation and written comments were requested by January 11, 1993. The agency has reviewed these comments and is in the process of drafting notice of proposed rulemaking (NPRM) for motor vehicle content labeling to be published this summer. The final rule is scheduled to be published no later than early 1994.

CAFE STANDARDS FOR PASSENGER CARS

Mr. CARR. To what extent was the 27.5 miles per gallon CAFE standard for passenger cars met in 1991 and 1992 by domestic and import vehicles?

[The information follows:]

Two of the three major domestic passenger car manufacturers met the CAFE standard for model year (MY) 1991, while 15 of 23 import passenger car manufacturers met or are projecting to meet the CAFE standard for MY 1991.

One of the three major domestic passenger car manufacturers is projecting to meet the CAFE standard for MY 1992, while 13 of 20 import passenger car manufacturers are projecting to meet the CAFE standard for MY 1992.

DOMESTIC PASSENGER	1991 CAFE	SOURCE	1992 CAFE	SOURCE
Chrysler	27.5	EPA Final	27.8*	MMY
Ford	27.6	EPA Final	27.3*	MMY
GM	27.1	EPA Final	26.8*	MMY
Callaway	19.0	MMY	----	----
Consulier	29.3	MMY	23.0*	MMY
Vector	10.1	EPA Final	10.0	MMY

IMPORT PASSENGER	1991 CAFE	SOURCE	1992 CAFE	SOURCE
BMW	23.2	EPA Final	24.0*	MMY
Chrysler	28.7	EPA Final	29.2*	MMY
Daihatsu	43.6	EPA Final	41.3	MMY
Fiat	23.2	EPA Final	22.5	EPA Final
Ford	33.2	EPA Final	25.3*	MMY
GM	31.8*	MMY	31.1*	MMY
Honda	30.7	EPA Final	31.3	EPA Final
Hyundai	32.9	EPA Final	31.3	EPA Final
Isuzu	34.9	EPA Final	32.5	MMY
Maserati	19.3	MMY	----	----
Mazda	30.5	EPA Final	30.7	EPA Final
Mercedes	22.3	EPA Final	21.8*	MMY
Mitsubishi	30.3*	MMY	28.9*	MMY
Nissan	29.2	EPA Final	29.4	MMY
Peugeot	26.3	EPA Final	24.7	MMY
Porsche	21.1*	MMY	22.4*	MMY
Sterling	25.2*	MMY	----	----
Subaru	28.4	EPA Final	27.8	MMY
Suzuki	43.2	MMY	44.7	MMY
Toyota	30.9	EPA Final	28.8	MMY
Volvo	25.3	EPA Final	25.6*	MMY
VW	29.9	EPA Final	29.2	MMY
Yugo	34.6	MMY	----	----

MMY = Manufacturer submitted mid-model year fuel economy report data

* MMY CAFE estimate includes adjustment for EPA test procedure changes and test fuel properties

CAFE: PENALTIES ASSESSED AND COLLECTED

Mr. Carr. What was the dollar amount of penalties assessed and collected from each domestic and foreign manufacturer in fiscal year 1992 for noncompliance with CAFE requirements? What is the total to date for fiscal year 1993?

[The information follows:]

FISCAL YEAR 1992 CAFE PENALTIES COLLECTED

MODEL YEAR	MANUFACTURER	FLEET	AMOUNT
1990	Callaway	Domestic	$20,400
1989	PAS	Domestic	$294,500
1990	Peugeot	Import	$72,500
1991	BMW	Import	$11,249,230
1987	Fiat	Import	$279,350
1988	Fiat	Import	$897,260
1989	Fiat	Import	$670,120

Fiscal 1992 CAFE Penalties Received = $13,483,360

FISCAL YEAR 1993 CAFE PENALTIES COLLECTED*

MODEL YEAR	MANUFACTURER	FLEET	AMOUNT
1991	Mercedes	Import	$19,169,540
1991	Peugeot	Import	$192,660
1991	Volvo	Import	$7,768,420

Fiscal 1993 CAFE Penalties Received = $27,130,620

* Status as of May 1, 1993

REVISIONS TO CAFE LEGISLATION

Mr. CARR. Vehicles may be classified as domestic or imported for CAFE purposes based on the vehicle's domestic/import value. Do you see a need to revise the CAFE legislation to amend provisions which permit manufacturers to vary the domestic/import value of the car to meet their CAFE needs?

[The information follows:]

At the time that the CAFE legislation was implemented, many of the domestic manufacturers were importing a large portion of their small (higher fuel economy) vehicles. The intent of the separation of a manufacturer's total fleet into separate domestic and imported components was to discourage imports and encourage domestic production of small cars. To a large extent, this problem has disappeared as a consequence of changes in market conditions, exchange rates, and competitiveness of the domestic manufacturers. Each of the domestic manufacturers does still import some small cars which are usually ones that sell in such low volume as to be uneconomical to produce in the U.S. or Canada. On the other hand, since it is advantageous to have only a single fleet to manage for CAFE compliance, many importers that also produce cars in the U.S. or Canada may be intentionally holding down the U.S./Canadian content of these "transplants" to avoid creating another fleet. To the extent that this happens, the domestic content provision is detrimental to American labor.

Unquestionably, the domestic content provision of the CAFE legislation results in a market distortion. It is not clear, however, whether at any given time the unconstrained industry would produce more or less of its products and components in the U.S. or Canada. The administration is reviewing the fuel economy program and the domestic/import issue will be addressed in that context.

STUDY TO IMPROVE FUEL ECONOMY

Mr. CARR. You are proposing $801,000 for a study of emerging technologies that appear to have significant potential to improve light vehicle fuel economy. What do you have in mind here and what would be the timeframe for this study?

[The information follows:]

This funding is intended to extend the results of the fiscal year 1992 National Academy of Sciences study which concluded that the government needs better information on technical issues, costs, benefits, and risks on technological improvements for fuel economy. The studies which we are proposing will look at the potential benefits from further development or refinement and wider use of technologies that are currently in production on a limited scale, as well as technologies that are likely to be introduced before the end of this decade. The studies will not be limited to evaluating the potential fuel economy improvement, but will include issues of production and tooling costs, leadtime for widespread application, emissions implications, and likely consumer acceptance.

The approach for these studies will be to contract for a literature search, followed by engineering analysis and modeling to explore the range of efficiency improvement that can be achieved. The contractor will additionally evaluate potential designs, estimate production and tooling costs, and evaluate external issues such as emissions and consumer acceptability. While the funding for each of these investigations will be tailored to the scope and difficulty of the study, a typical study will cost $150,000 to $200,000 and will take approximately 12 months from inception to conclusion.

Some of the technologies that show promise in improving fuel efficiency include two-cycle engines (with production to start at a plant in Tecumseh, Michigan), variable valve timing (now in production on several Japanese and European cars), lean-burn combustion (in production with varying capabilities and needing more effective control of nitrogen oxides), direct injection diesel engines (in production on light trucks over 8,500 lbs gross vehicle weight rating in the United States and on passenger cars in Europe), ceramic engine components (to permit engines to operate more efficiently at higher temperatures—turbocharger impellers and other parts in production in special applications), and continuously variable transmissions (in production on small cars such as the Subaru Justy for many years, but not yet adapted to larger production vehicles). The studies to be undertaken will be selected from the above (or other new promising technologies).

NCAP: TEST RESULT DISSEMINATION

Mr. CARR. How many copies of NCAP test results have been requested annually for the past 5 years? Do you keep any records on who the requesters are, such as car dealers, consumer groups, or members of the general public?

[The information follows:]

The agency does not keep records on the number of copies of NCAP data that it directly disseminates because direct public dissemination is not in the program's plan or budget. The primary dissemination tool utilized by the NCAP is the press release. The NCAP test results are made available to more than one thousand media organizations at each press release. These organizations have a potential audience in the tens of millions. It is estimated that the agency directly disseminates approximately twenty-five thousand copies annually. The majority of these requests are received through the Hotline.

The agency does keep records of the Hotline requests for NCAP data, but no specifics on the requesters.

NCAP: DATA PRESENTATION

Mr. CARR. What interim measures have you taken to improve the presentation of the NCAP data in your annual press release to make the information more "user friendly"?

[The information follows:]

In fiscal year 1992, the Appropriations Committees directed NHTSA to develop methods to enhance the usefulness of the NCAP to consumers. The agency has initiated a program soliciting recommendations via focus groups and media surveys which will then be evaluated and implemented to achieve the more "user friendly" goal. Interim improvements suggested within the agency have already been implemented before the formal focus group studies were begun.

In the first press release for model year 1993, the agency initiated its endeavor to enable the consumer to relate the Head Injury Criterion (HIC) test measure to the probability of a serious head injury in a real world collision. The following words of explanation were added to the narrative portion of each press release:

Someone experiencing a HIC of 500 or less most likely will have little or no head injury. At a HIC of 1000, about 1 in 6 occupants may have either a life threatening skull fracture or brain damage requiring immediate medical attention. At HICs of 2000 or more, nearly all crash victims may experience life-threatening head injuries with a high probability of death or long term disability.

In the graphical representation of HIC, the agency introduced a new format that differentiates the HIC test result in a visual manner between head contact, non-contact, or a head to air-bag interaction. The agency continued its previous enhancements, such as listing the vehicles in each category from the lowest to the highest HIC.

NCAP: EFFECTIVENESS AND IMPACT ON SAFETY

Mr. CARR. Can you cite any specific examples of NCAP's effectiveness and impact on safety.

[The information follows:]

NCAP scores have improved steadily since the beginning of the program in 1979. Significant reductions in average head injury criteria (HIC) for approximately 1300 in 1980 to less than 700 in 1993 have occurred in passenger cars (PC's). Lower HIC's indicate reduced probability of serious head injury. Similar reductions are now being noted for light trucks, vans, and sport utility vehicles. A much higher percentage of PC's are now meeting the injury prevention requirements of the dynamic occupant protection standard (FMVSS No. 208) even at the higher NCAP crash speed. In model year (MY) 1993, 80 percent of the PC's met FMVSS No. 208 requirements in the NCAP tests compared to only 25 percent in MY 1979.

Preliminary results from a recent analysis of the Fatal Accident Reporting System (FARS) data shows a statistically significant correlation between NCAP performance and the fatality risk of belted drivers in actual head-on collisions. The analysis indicates that the driver of a car which performs well in NCAP is, on the average, about 15 to 30 percent less likely to be killed than the driver of a car which performs poorly in NCAP. These results will be formally documented in a report to Congress this November.

Also, as vehicles are redesigned and subsequently retested in NCAP, manufacturers often incorporate changes which improve their NCAP test performance. Examples of specific passenger car makes and models which have been significantly improved over their original NCAP performance are given in the attached.

Specific Examples of NCAP's Effectiveness and Impact on Safety

VEHICLE IDENTIFICATION			DUMMY RESPONSE PARAMETERS							
MAKE	MODEL	MY	HICD	HICP	CGD	CGP	LFEMD	RFEMD	LFEMP	RFEMP
VOLVO	DL	79	1782	1889	52	61	320	900	700	320
VOLVO	DL	82	550	381	45	35	154	1147	892	227
VOLVO	DL (SW)	85	621	262	33	31	100	1005	630	615
VOLVO	DL	85	651	310	36	25	350	1020	590	
DODGE	COLT	82	932	1730	72	44	517	782	506	276
DODGE	COLT	85	787	741	42	32	480	460	1090	370
RENAULT	MEDAL.	88	1656	873	57	38	205	617	411	1193
EAGLE	MEDAL.	89	745	589	41	39	1721	1738	1574	1670
FORD	GRANADA	79	1442	1279	61	56	1750	350	390	570
FORD	GRANADA	82	860	1050		52	980	800	460	340
FORD	TAURUS	86	1209	695	53	37	828	1485	566	502
FORD	TAURUS	88	707	359	38	47		775	455	438
FORD	TEMPO	84	2955	1104	63	45	750	480	675	370
FORD	TEMPO	85	1207	932	52	40	870	580	440	310
FORD	TEMPO	88	721	470	47	50	1113	1773	1037	702
HONDA	CIVIC	79	2030	2093	93	46	1080	838	1520	1460
HONDA	CIVIC	80	2626	1506	54	47	1006	3118	418	218
HONDA	CIVIC	81	607	492	41	35	200	500	1100	540
HONDA	CIVIC	84	563	846	37	43	1067	602	1566	1275
HONDA	PRELUDE	80	2904	1759	52	45	445	1057	465	277
HONDA	PRELUDE	84	659	475	43	31	600	510	690	980
HYUNDAI	EXCEL	86	999	2662	73	55	2248	785	1597	520
HYUNDAI	EXCEL	90	696	419	41	39	1385	1921	1682	964
MAZDA	626	82	969	1693	47	50	575	1215	550	250
MAZDA	626	83	1196	1087	45	56	450	350	260	360
MAZDA	626	87	846	801	52	46	820	1300	1487	1255
MAZDA	RX-7	85	921	1345	40	42	369	476	604	809
MAZDA	RX-7	88	921	614	39	48	186	1135	268	650
MERCURY	SABLE	86	1237	680	48	44	1039	1780	671	465
MERCURY	SABLE	88	712	410	51	35		1512	862	913
PONTIAC	FIREBIRD	79	965	1297	42	47	582	472	503	717
PONTIAC	FIREBIRD	83	408	376	34	32	900	480	100	125

Specific Examples of NCAP's Effectiveness
and Impact on Safety

VEHICLE IDENTIFICATION			DUMMY RESPONSE PARAMETERS							
MAKE	MODEL	MY	HICD	HICP	CGD	CGP	LFEMD	RFEMD	LFEMP	RFEMP
SAAB	9000	86	773	1443	71	46	484		541	421
SAAB	9000	87	584	440	37	35	120	346	435	638
TOYOTA	CELICA	79	849	1862	61	59	2920	435	400	520
TOYOTA	CELICA	82	702	530	36	45	456	448	360	359
TOYOTA	COROLLA	80	838	1162	69	92	740	775	200	270
TOYOTA	COROLLA	82	842	828	59	40	1400	1178	888	507
TOYOTA	COROLLA	84	630	611	41	42	1320	730	340	395
TOYOTA	CRESSIDA	81	1980	771	55	50	1710	1982	1644	1807
TOYOTA	CRESSIDA	85	883	914	50	58	1725	1820	1355	1820
TOYOTA	CRESSIDA	89	790	544	51	51	1632	1554	1246	1107
VW	JETTA	81	1210	1272	68	52	1276	1191	1559	1286
VW	JETTA	85	898	1008	50	51	362	396	711	516

MY = Model year, HICD = Driver head injury criteria, HICP = Right front passenger head injury criteria, CGD = Driver chest injury criteria, CGP = Right front passenger injury criteria, LFEMD = Driver left femur load, RFEMD = Driver right femur load, LFEMP = Right front passenger left femur load, RFEMP = Right front passenger right femur load.

NCAP: BUDGET DATA

Mr. Carr. Please provide for the record a detailed breakdown of your fiscal year 1993 and proposed fiscal year 1994 NCAP budget, similar to the breakdown for fiscal year 1992 included in your February 1992 "New Car Assessment Program Plan for Responding to the Fiscal Year 1992 Congressional Directives."

[The information follows:]

Table 1
Detailed Breakdown of FY 1993 NCAP Budget

Project Description		Budget Amount
Frontal Impact NCAP FY 1993 Budget Plans	Vehicle Purchases (37)	$600,000
	Vehicle Testing (37)	$600,000
	Dummy Purchases (Hybrid III)	$200,000
	Dummy Calibrations	$30,000
	Dummy Parts and Refurbishing	$60,000
	Video Production	$30,000
	Administrative Costs	$80,000*
	Total	$1,600,000
Side Impact NCAP FY 1993 Budget Plans	Vehicle Purchases (12)	$185,000
	Vehicle Testing (12)	$180,000
	Dummy Purchases (4)	$170,000
	Impact Barrier Purchases (15)	$40,000
	Administrative Costs	$45,000*
	Total	$620,000
Total FY 1993 NCAP Budget		$2,220,000

* Administrative costs include computer support, hot copy, printing, and distribution costs.

Table 2
Detailed Breakdown of Proposed FY 1994 NCAP Budget

Project Description		Budget Amount
Frontal Impact NCAP FY 1994 Budget Plans	Vehicle Purchases (39)	$675,000
	Vehicle Testing (39)	$775,000
	Dummy Calibrations	$20,000
	Dummy Parts and Refurbishing	$50,000
	Video Production	$25,000
	Administrative Costs	$65,000*
	Total	$1,610,000
Side Impact NCAP FY 1994 Budget Plans	Vehicle Purchases (15)	$260,000
	Vehicle Testing (15)	$255,000
	Impact Barrier Purchases (15)	$45,000
	Administrative Costs	$40,000*
	Total	$600,000
NCAP Promotional Program	Finalize Promotional Material (Brochures, Radio & Print Spots)	$50,000
	Develop, Reproduce, & Disseminate Promotion Material	$100,000
	Develop, Reproduce, & Disseminate Consumer Material	$100,000
	Total	$250,000
Total FY 1994 NCAP Budget		$2,460,000

* Administrative costs include computer support, hot copy, printing, and distribution costs.

NCAP: VEHICLES TESTED IN 1993

Mr. Carr. Please also include for the record the vehicles selected for testing in the 1993 NCAP and the rationale for those selections.

[The information follows:]

The 1993 NCAP provided funding for testing 37 vehicles. The list of vehicles selected is attached. Selection of vehicles is based on estimated sales volume and other items which are given under "comments."

VEHICLES SELECTED FOR 1993 NCAP

VEH NO.	MFG.	MAKE	MODEL	BODY STYLE	RESTR SYS	EST. PRICE	EST. SALE	COMMENTS
1	CHRYS.	DODGE	INTREPID	4-DR	D&P ABG	$18,000	75,000	NEW MODEL 93
2		DODGE	DYNASTY	4-DR	DR.ABG	$20,000	110,000	NEW DESIGN
3		DODGE	STEALTH	2-DR	DR.ABG	$21,000	30,000	NEW MODEL 92
4		DODGE	RAM PICKUP	PU	MANUAL	$12,000	100,000	NEW DESIGN
5		JEEP	GRAND CHEROKEE	MPV	DR.ABG	$20,000	175,000	NEW MODEL 93
6	FORD	FORD	TEMPO	4-DR	DR.ABG	$10,000	200,000	NEW DESIGN
7		FORD	EXPLORER	MPV	DR.ABG	$20,000	175,000	NEW DESIGN
8		FORD	BRONCO	MPV	MANUAL	$19,000	30,000	NEW DESIGN
9		FORD	PROBE	2-DR	DR.ABG	$10,000	100,000	NEW DESIGN
10		FORD	RANGER	PU	DR.ABG	$18,000	240,000	NEW DESIGN
11		FORD	TAURUS	4-DR	D&P ABG	$20,000	450,000	DRIVER & PASS ABGS
12	GM	BUICK	CENTURY	4-DR	DR.ABG	$18,000	150,000	NEW DESIGN
13		CHEVROLET	S-10 BLAZER (4DR)	MPV	MANUAL	$15,000	90,000	NEW DESIGN
14		CHEVROLET	SURBURBAN	MPV	MANUAL	$20,000	40,000	NEW DESIGN
15		CHEVROLET	C-1500	PU	MANUAL	$12,500	100,000	NEW DESIGN
16		PONTIAC	BONNEVILLE	4-DR	D&P ABG	$20,000	100,000	NEW DESIGN
17		PONTIAC	GRAND AM	4-DR	PAS.BLT	$12,000	150,000	NEW MODEL 92
18	HONDA	HONDA	CIVIC	4-DR	DR.ABG	$15,000	100,000	NEW DESIGN
19		HONDA	CIVIC COUPE	2-DR	D&P ABG	$17,000	35,000	NEW DESIGN
20		HONDA	ACCORD	2-DR	D&P ABG	$19,000	50,000	NEW DESIGN
21	ISUZU	ISUZU	RODEO	MPV	MANUAL	$10,000	30,000	NEW DESIGN
22	MAZDA	MAZDA	626	4-DR	DR.ABG	$16,000	60,000	NEW DESIGN
23	MITSU.	MITSUBISHI	MIRAGE	4-DR	PAS.BLT	$15,000	25,000	NEW DESIGN
24		MITSUBISHI	MONTERO	MPV	MANUAL	$16,000	20,000	NEW DESIGN
25	NISSAN	NISSAN	STANZA ALTIMA	4-DR	DR.ABG	$17,000	50,000	NEW 93, REPLACES STANZA
26		NISSAN	QUEST	VAN	MANUAL	$12,000	20,000	NEW MODEL 93
27		NISSAN	PICKUP	PU	MANUAL	$10,000	132,000	NEW DESIGN
28		NISSAN	SENTRA	4-DR	DR.ABG	$11,000	160,000	NEW DESIGN
29	SAAB	SAAB	9000CS	4-DR	DR.ABG	$25,000	10,000	NEW DESIGN
30	SUBARU	SUBARU	LEGACY	4-DR	DR.ABG	$15,000	65,000	NEW DESIGN
31	TOYOTA	TOYOTA	PREVIA	VAN	DR.ABG	$17,000	50,000	NEW DESIGN
32		TOYOTA	PICKUP	PU	MANUAL	$12,000	150,000	CHANGED BELT MECHANISM
33		TOYOTA	4RUNNER	MPV	MANUAL	$17,000	44,000	CHANGED BELT MECHANISM
34		TOYOTA	COROLLA	4-DR	DR.ABG	$10,000	300,000	NEW DESIGN
35		TOYOTA	T100	PU	MANUAL	$14,000	50,000	NEW DESIGN
36		TOYOTA	TERCEL	4-DR	DR.ABG	$10,000	100,000	NEW DESIGN
37	VW	VW	EUROVAN	VAN	MANUAL	$18,000	10,000	NEW DESIGN

NCAP: TEST COST DATA

Mr. Carr. Please update for the record the cost data for the NCAP as shown on page 914 of last year's hearing record.

[The information follows:]

Test costs include the cost of the vehicle, the cost to calibrate the anthropomorphic test devices, and the cost to perform the fixed barrier test.

The 1987 NCAP cost was $950,000 (38 tests at $25,000 each). The 1988 per-test cost remained the same, and the total, excluding Optional NCAP tests, was $850,000 (34 tests at $25,000 each). The 1989 per-test cost increased to $26,000, while the total cost was $858,000 (33 tests at $26,000 each).

Due to the increased use of the advanced anthropomorphic test device (the Hybrid III test dummy) and correspondingly increased number of instrumentation data channels, the 1990 per-test cost increased to $29,000. The total cost of the 1990 program was $1,015,000 (35 tests at $29,000 each). One test was invalidated, thus only 34 test results were released.

Because a great number of low-cost vehicles were selected for the 1991 program, its per-test cost decreased to $27,000. The total 1991 program cost was $918,000 (34 tests at $27,000 each). Two tests were invalidated, and one test was postponed to the 1992 NCAP program. Therefore, only 31 test results for 1991 were released.

Due to the increase in the costs of vehicles, the addition of airbags and antilock brake systems in some vehicles, the pre-test cost in 1992 increased to $29,684. The total 1992 program cost, excluding one Optional NCAP test, was $1,038,940 (35 tests at $29,684 each). Results were released for 36 tests including the 1991 Nissan Pathfinder for which testing was postponed during 1991 and one Optional NCAP test.

The per test cost for the 1993 NCAP is expected to increase to $32,240 per test due to the increase in the costs of vehicles with the addition of airbags and antilock brake systems in most vehicles and the more frequent use of Hybrid III dummies. The total 1993 program cost is estimated to be $1,192,880 (37 tests at $32,240 each). It is expected results will be released for 37 tests.

NCAP: VEHICLES TESTED IN 1992 AND 1993

Mr. Carr. Please also provide a final listing of the motor vehicles you tested in NCAP in 1992 and a proposed list for 1993, along with planned dates you propose to publish test results for each vehicle, similar to that appearing on pages 915–917 of last year's hearing record.

[The information follows:]

The following is a list of the vehicles tested in the 1990, 1991, and 1992 New Car Assessment Program (NCAP), along with the dates of the tests and press releases. Also included is a list of the vehicles tested in the 1993 NCAP with actual dates of tests and press releases when available. In the remainder of the cases, the planned dates for publication of the test results are contingent upon the approval of the last press release currently in the approval process.

1990 NCAP DATES

MAKE	MODEL	TEST FACILITY	ACTUAL DATE OF VEHICLE TEST	ACTUAL DATE OF RELEASE OF TEST RESULTS
Acura	Integra 4-dr.	MSE	9/12/89	1/8/90
Mitsubishi	Eclipse 2-dr.	MSE	9/27/89	1/8/90
Chevrolet	Lumina 4-dr.	MSE	9/29/89	1/8/90
Mazda	Miata 2-dr.	CAL	11/21/89	2/13/90
Toyota	4-Runner MPV	CAL	11/29/89	2/13/90
Toyota	Lexus ES250 4 dr.	CAL	12/1/89	2/13/90
Nissan	Stanza 4 dr.	CAL	12/14/89	2/13/90
Hyundai	Excel 2-dr.	CAL	1/9/90	3/13/90
Ford	Taurus 4-dr.	CAL	1/11/90	3/13/90
GEO	Prizm 4-dr.	CAL	1/16/90	3/13/90
Toyota	Celica 2-dr.	CAL	1/18/90	3/13/90
Nissan	Axxess 4-dr.	MSE	1/25/90	3/13/90
Ford	Ranger PU	MSE	2/22/90	5/24/90
Ford	Mustang 2-dr.	MSE	3/1/90	5/24/90
Honda	Prelude 2-dr.	MSE	3/16/90	5/24/90
Mercedes	190E 4-dr.	MSE	3/23/90	5/24/90
Infiniti	M30 2-dr.	CAL	2/13/90	7/16/90
Lincoln	Town Car 4-dr.	CAL	2/20/90	7/16/90
Isuzu	Amigo MPV 2 dr.	CAL	2/27/90	7/16/90
Volkswagen	Passat 4-dr.	CAL	3/1/90	7/16/90
Ford	Club Wagon Van	MSE	3/8/90	7/16/90
BMW	325i 2-dr.	MSE	3/13/90	7/16/90
Isuzu	Trooper II	MSE	3/20/90	7/16/90
Buick	LeSabre 2-dr.	CAL	4/6/90	7/16/90
Chevrolet	S-10 Blazer MPV 2 dr.	CAL	4/18/90	7/16/90
Chevrolet	S-10 PU	CAL	4/19/90	7/16/90
Chrysler	LeBaron 2-dr.	CAL	3/27/90	8/30/90
Chrysler	Imperial 4-dr.	CAL	4/3/90	8/30/90
Chevrolet	Cavalier 4-dr.	CAL	5/4/90	8/30/90
Cadillac	DeVille 4-dr.	CAL	4/26/90	8/30/90
Subaru	Legacy 4-dr.	CAL	5/24/90	8/30/90
Jeep	Cherokee MPV 4 dr.	CAL	6/12/90	8/30/90
Pontiac	Trans Sport Van	CAL	5/15/90	8/30/90
Dodge	Dakota PU	CAL	5/22/90	8/30/90

1991 NCAP DATES

MAKE	MODEL	TEST FACILITY	ACTUAL DATE OF VEHICLE TEST	ACTUAL DATE OF RELEASE OF TESTS RESULTS
Ford	Escort 2-dr.	MSE	10/5/90	2/25/91
Chevrolet	Caprice 4-dr.	CAL	11/9/90	2/25/91
Dodge	Shadow 4-dr.	CAL	11/27/90	2/25/91
Chevrolet	S-10 Blazer 4 dr.	CAL	12/6/90	2/25/91
Nissan	Sentra 4-dr.	TRC	12/11/90	2/25/91
Honda	Accord 4-dr.	CAL	12/13/90	2/25/91
Chevrolet	Beretta 2 dr.	TRC	12/19/90	2/25/91
Toyota	Previa Van	MSE	9/28/90	3/21/91
Ford	Explorer MPV 4 dr.	MSE	10/11/90	3/21/91
Buick	Century 4 dr.	TRC	1/8/91	3/21/91
Mitsubishi	Galant 4 dr.	TRC	1/21/91	3/21/91
Chevrolet	Camaro 2-dr.	TRC	2/20/91	5/6/91
Ford	Probe 2-dr.	CAL	3/12/91	5/6/91
Saturn	Saturn SL2 4-dr.	TRC	3/13/91	5/6/91
Isuzu	Rodeo MPV 4-dr.	CAL	3/14/91	6/24/91
Chevrolet	Corsica 4-dr.	CAL	3/21/91	6/24/91
Chrysler	New Yorker Salon 4-dr.	CAL	3/26/91	6/24/91
Geo	Storm 2-dr.	CAL	4/10/91	6/24/91
Honda	Accord Wagon	CAL	4/23/91	6/24/91
Ford	Taurus Wagon	CAL	4/25/91	8/1/91
Hyundai	Scoupe 2-dr.	MGA	5/8/91	8/1/91
Mazda	MPV	CAL	5/7/91	8/1/91
Mazda	Protege 4-dr.	MGA	1/17/91	8/1/91
Plymouth	Acclaim 4 dr.	CAL	5/21/91	8/1/91
Toyota	Corolla 4-dr.	CAL	2/19/91	8/1/91
Toyota	Pickup 4x4	MGA	2/13/91	8/1/91
Toyota	Tercel 4-dr.	CAL	4/2/91	8/1/91
Honda	Civic 4-dr.	MGA	12/20/90	8/21/91
Isuzu	Stylus 4-dr.	TRC	3/7/91	8/21/91
Nissan	Stanza 4-dr.			8/21/91
Nissan	300ZX 2-dr.	TRC	4/8/91	8/21/91
Suzuki	Sidekick MPV 4-dr.	TRC	4/1/91	8/21/91

1992 NCAP DATES

MAKE	MODEL	TEST FACILITY	PROPOSED OR ACTUAL DATE OF VEHICLE TEST	PROPOSED OR ACTUAL DATE OF RELEASE OF TEST RESULTS
BMW	325i 4-dr	CAL	10/15/91	1/16/92
Mitsubishi	Diamante 4-dr	CAL	9/24/91	1/16/92
Oldsmobile	88 Royale 4-dr	CAL	9/6/91	1/16/92
Dodge	Caravan	CAL	11/20/91	2/6/92
Ford	F-150 PU	CAL	11/26/91	2/6/92
Toyota	Paseo 4-dr	CAL	9/17/91	2/6/92
Chevrolet	S-10 PU	TRC	11/27/91	3/26/92
Chevrolet	G-20 Van	TRC	12/5/91	3/26/92
Geo	Metro 2HB	CAL	12/10/91	3/26/92
Dodge	Dakota PU	TRC	12/11/91	3/26/92
Chevrolet	Astro Van	TRC	1/2/92	5/1/92
Isuzu	Pickup	CAL	1/16/92	5/1/92
Nissan	Maxima 4-dr	TRC	1/29/92	5/1/92
Toyota	Camry 4-dr	CAL	2/13/92	5/1/92
Volvo	240DL 4-dr	TRC	2/12/92	6/12/92
Honda	Accord 4-dr	CAL	2/18/92	6/12/92
Dodge	Ram Wagon	TRC	2/26/92	6/12/92
Ford	Aerostar	CAL	3/12/92	6/12/92
Mitsubishi	Mighty Max PU	TRC	3/11/92	6/12/92
Cadillac	Seville 4-dr	TRC	3/25/92	6/12/92
Acura	Vigor	CAL	10/8/91	6/12/92
Ford	Festiva	MGA	4/21/92	8/19/92
Isuzu	Trooper	TRC	4/22/92	8/19/92
Oldsmobile	Achieva 2-dr	TRC	4/8/92	8/19/92
Hyundai	Excel 4-dr	MSE	5/19/92	8/19/92
Hyundai	Elantra 4-dr	MSE	5/22/92	8/19/92
Ford	Ranger PU	MSE	5/7/92	8/19/92
Nissan	Pathfinder	MGA	4/7/92	8/19/92
Plymouth	Colt Vista Wag.	CAL	3/5/92	8/19/92
Mazda	B-2200 PU	MSE	5/14/92	8/19/92
Honda	Prelude 2HB	MSE	6/1/92	9/3/92
Mazda	MX-3	MSE	6/5/92	9/3/92
Acura	Legend 4-dr	CAL	4/7/92	9/3/92
Ford	Econoline	TRC	1/15/92	9/3/92
Saturn	SL2	TRC	4/27/92	9/3/93
Ford	Crown Victoria	CAL	7/10/92	9/3/92

1993 NCAP DATES

MAKE	MODEL	TEST FACILITY	PROPOSED OR ACTUAL DATE OF VEHICLE TEST	PROPOSED OR ACTUAL DATE OF RELEASE OF TEST RESULTS
Chevrolet	C-1500 4x2 PU	TRC	8/6/92	11/2/92
Mazda	626 4-dr	TRC	8/18/92	11/2/92
Pontiac	Bonneville 4 dr	CAL	9/3/92	11/2/92
Jeep	Grand Cherokee 4x4 4 dr	CAL	8/27/92	12/23/92
Dodge	Dynasty 4 dr	CAL	10/27/92	12/23/92
Pontiac	Grand Am 4 dr	CAL	10/13/92	12/23/92
Toyota	Corolla 4 dr	CAL	10/21/92	12/23/92
Buick	Century 4 dr	TRC	10/29/92	12/23/92
Nissan	Quest Van	MSE	10/29/92	12/23/92
Nissan	Altima 4 dr	CAL	11/18/92	2/3/93
Chevrolet	S-10 Blazer 4x4 4 dr	TRC	11/24/92	2/3/93
Dodge	Intrepid 4 dr	TRC	11/10/92	2/3/93
Nissan	Pickup 4x2	MSE	11/10/92	2/3/93
Mitsubishi	Mirage 4 dr	MGA	11/23/92	2/3/93
Ford	Ranger PU 4x2	MSE	12/2/92	2/3/93
Toyota	Pickup 4x2	MGA	12/2/92	2/3/93
Honda	Civic 4-dr	CAL	12/8/92	3/8/93
Ford	Tempo 4 dr	MGA	1/14/93	3/8/93
Ford	Explorer MPV 4x4 4 dr	MSE	12/17/92	3/8/93
Toyota	Previa Van	TRC	1/6/93	3/8/93
Toyota	4-Runner MPV 4x4 4 dr	MSE	12/9/92	3/8/93
Ford	Probe 2-dr	TRC	2/11/93	4/8/93
Ford	Bronco MPV 4x4 2 dr	MGA	1/27/93	4/8/93
Honda	Accord 4-dr	CAL	2/9/93	4/8/93
Dodge	Ram 150 PU	CAL	1/19/93	4/8/93
Dodge	Stealth 2 dr	TRC	12/16/92	4/8/93
Chevrolet	Suburban 4X4 4 dr	TRC	2/3/93	4/8/93
Honda	Civic Coup 2-dr	MSE	3/12/93	May 1993
Saab	9000 CS 4 dr	TRC	3/8/93	May 1993
Mitsubishi	Montero 4X4 4 dr	TRC	2/17/93	May 1993
Volkswagen	Eurovan	TRC	1/27/93	May 1993

1993 NCAP DATES

MAKE	MODEL	TEST FACILITY	PROPOSED OR ACTUAL DATE OF VEHICLE TEST	PROPOSED OR ACTUAL DATE OF RELEASE OF TEST RESULTS
Toyota	T100 4X2 PU	MSE	12/15/92	May 1993
Toyota	Tercel 4-dr	MSE	3/3/93	May 1993
Nissan	Sentra 4-dr	MSE	3/10/93	May 1993
Isuzu	Rodeo 4X4 4 dr	CAL	3/23/93	May 1993
Subaru	Legacy 4-dr	CAL	3/9/93	May 1993
Ford	Taurus 4-dr	TRC	3/17/93	May 1993

Test Facilities
CAL = Calspan Advanced Technology Center
MGA = MGA Research Corporation
MSE = Mobility Systems and Equipment Company
TRC = Transportation Research Center

NCAP: IMPROVEMENTS AND EXPANSIONS OF PROMOTIONAL ACTIVITIES

Mr. CARR. You are requesting $250,000 in fiscal year 1994 to fund improvements and expansions of NCAP promotional activities. Please expand in the record on how these funds would be spent.

[The information follows:]

Preliminary recommendations from focus groups and media surveys strongly support the need to more effectively inform and provide NCAP data for consumer use. A $250 thousand new initiative to support these recommendations is included in the agency's FY 1994 budget request. The $250 thousand will be used to implement new promotional methods and to produce effective radio spots and videos for public service announcements and informative consumer brochures for distribution at strategic consumer locations.

Breakdown of FY 1994 NCAP Promotional Funds

[Dollars in thousands]

A. Finalize Presentation Material (Media, Print, Brochures) Based on Focus Group Findings—One Time Expenditure	50
B. Develop, Reproduce & Disseminate Promotional Material (Public service radio and television spots, printed media advertisements)	100
C. Develop, Reproduce & Disseminate Consumer Material (Information brochures about the NCAP data and brochures with completed NCAP results—to be placed a strategic locations, such as automobile shows and dealerships)	100

COMPLIANCE TEST DUMMIES

Mr. CARR. Currently, various dummies are in use by NHTSA and the industry for compliance testing, and new dummies are under development, including Hybrid II, Hybrid III, TAD-50M, SID, BioSID, and EuroSID. How large are the differences in the results using the different dummies? Please provide specific examples.

[The information follows:]

In our safety standards, there is only one instance where we allow a choice of dummies to be used in compliance testing. This occurs in frontal barrier tests, where either the Hybrid II or the Hybrid III test dummy may be used. While the agency believes the dummies are "equivalent" in measuring frontal crash protection, the dummies do not always give precisely the same results for each injury measure. For example, one Ford Motor Company study shows that the belt restrained Hybrid III responds with Head Injury Criteria (HIC) of 681 and chest G of 50.7. Corresponding values for the Hybrid II are 422 and 38.8. Comparable responses of belted dummies in air bag tests resulted in HIC of 504 and chest G of 46.7 for the Hybrid III and 547 and 47.2 for the Hybrid II respectively. The differences in responses between the two dummies depend on the restraint system used; in general, they are less pronounced with air bags.

For side impact protection, the agency requires the use of SID. In December 1991, the agency sought comment on whether it should also allow use of BioSID and EuroSID. Agency testing based on evaluation of the dummies on impacts into padded walls of various stiffness produced accelerations having the same directional tendency as the SID. All three dummies produced responses that were directionally similar and led to the same optimum padding. For example, all three dummies produced below injury threshold responses (Thoracic Trauma Index (TTI) less than 85G) with paddings of similar stiffness (65.5 Kilo Pascal (Kpa) to 131 KPa). Differences in dummy responses became progressively larger for increasingly harder and softer paddings. For paddings approaching rigid wall stiffness (1000 kPa), dummy responses were found to very between TTI 100 and TTI 160, and for a very soft surface (17.5 kPa) the TTI values varied from approximately 90 to 145. Because of its prototype status, the EuroSID was not evaluated by NHTSA in vehicle tests. Tests were to have been conducted in Europe in 1991 and 1992, but they have not been completed. In addition, unusual data spikes were measured in some of the BioSID tests, which could not be explained. The agency has discontinued further evaluation of the BioSID, because comments to the docket indicated no interest in its further use, and the rulemaking will be terminated.

The TAD-50M dummy is still in development and data for comparison are not available.

UNIFORM MEASUREMENT FOR VEHICLE SAFETY STANDARDS

Mr. CARR. How can NHTSA have truly uniform federal motor vehicle safety standards when a variety of measurement devices for verifying compliance are allowed?

[The information follows:]

There is only one standard in which the agency allows more than a single test dummy to measure compliance. NHTSA currently permits two comparable test tools—the Hybrid II and the Hybrid III dummies—for determining compliance in frontal impact tests. For side impact and child restraint testing, only one dummy type is permitted for each test. NHTSA proposed, in 1985, alternative use of the Hybrid III for all frontal impact testing. At that time most of the industry felt that the Hybrid II was sufficient for developing and certifying belt restraint systems and indicated that they needed more experience with the Hybrid III. They did not object to the use of the Hybrid III dummy if someone wanted to use it for certification. NHTSA accepted this rationale, since neither of the dummies would allow the use of deficient belt restraints in motor vehicles.

The advancement of more complex automatic restraints brought about the need to use the more biofidelic Hybrid III for vehicle development so as to understand more completely the occupant's interaction with the restraint system and to assess many more potential types of injuries, assessments which are not possible with the Hybrid II dummy. Accordingly, the agency proposed, in December 1992, the exclusive use of the Hybrid III dummy as of September 1, 1996. Once the Hybrid III becomes the exclusive dummy, none of the NHTSA standards will permit different dummies for compliance certification.

SAFETY STANDARD UPDATES

Mr. CARR. To what extent are NHTSA's safety standards updated as better dummies are developed? Which standards, if any, require or allow the use of obsolete dummies?

[The information follows:]

NHTSA's safety standards are updated upon resolution of three issues: 1) the development and applicability of an acceptable injury criterion, 2) the availability of a suitable dummy with appropriate biofidelity and measuring capability to assess the injury criterion on an objective basis, and 3) the update serves the needs of safety. The availability of a new dummy alone is not necessarily an indication that safety standards should be updated. However, when all three conditions are satisfied, appropriate actions can be initiated to upgrade the standard. Such an upgrade was initiated when the Hybrid III dummy was proposed as alternate dummy in 1985. The proposal included a chest deflection injury criterion which was subsequently adopted in 1986. The neck injury criterion for head non-contact impacts was proposed in 1992 in conjunction with the sole use of the Hybrid III dummy. The safety need was supported by the availability of extensive accident data for the head-neck complex. Similarly, the availability of the SID dummy, the development of an appropriate injury criterion, and a safety need for side impact protection led to an upgrading of Federal Motor Vehicle Safety Standard 214, Side Impact Protection. In contrast, the availability of a more extensive measuring system on lower limbs of the Hybrid III dummy could not be used, because the measurements were not repeatable and there was uncertainty as to the effectiveness of the injury criterion.

None of the current standards requires or allows use of obsolete dummies. The Hybrid II dummy will become outdated when the Hybrid III becomes the exclusive dummy for frontal impact protection compliance testing. Until such time, both the Hybrid II and the Hybrid III dummies can be used effectively for vehicle certification purposes.

TEST DUMMIES: STANDARDIZATION AND INTERNATIONAL HARMONIZATION

Mr. Carr. Please discuss recent progress toward standardization and international harmonization of test dummies, and any relevant goals NHTSA has established.

[The information follows:]

Although the Hybrid II dummy is universally used throughout the world for frontal impact evaluation, it has not been officially adopted as a tool for use in international standards. The issuance of the Final Rule for exclusive use of the Hybrid III will provide the foundation for international harmonization of that dummy. Docket comments indicate a worldwide acceptance of that dummy by vehicle manufacturers.

Agency attempts to establish a basis for international harmonization on side impact protection have not been successful. The agency issued, on December 21, 1991, an Advance Notice of Proposed Rulemaking for the purpose of determining the desirability and need for specifying alternative dummies and/or selecting one of the alternative dummies for international harmonization. The responses indicated no consensus of the commenting parties on the suitability of any of the existing dummies for international harmonization. Members of the European Experimental Vehicle Committee (EEVC) are uncertain as to what test procedure might be most useful for evaluating side impact protection and whether such a procedure will even involve a dummy. We have no estimate of when this issue will be resolved within the EEVC. The agency will not set a timetable for the development of a new side impact dummy until it has had an opportunity to evaluate the effectiveness and/or shortcomings of the SID dummy and a more complete biomechanical data base is developed.

To cover future frontal impact safety requirements, the agency is developing an advanced 50th percentile dummy, TAD-50M. This dummy is being developed with cooperation of and in coordination with interested parties throughout the world. The dummy will not be completed for another 4 to 5 years and is targeted for implementation after the year 2000.

HYBRID III TEST DUMMY IMPLEMENTATION

Mr. Carr. NHTSA recently issued a proposed rule requesting comments on a requirement that the Hybrid III test dummy be used for all occupant crash compliance testing. When would this requirement become effective?

[The information follows:]

We proposed that the requirement take effect on September 1, 1996. However, commenters to the notice suggested both earlier and later dates. Procedurally, we cannot require an earlier date without re-proposing the amendment, but we are evaluating the comments to determine whether a later date is in the public interest.

HYBRID III TEST DUMMY RULEMAKING COMMENTS

Mr. Carr. Please provide for the record a summary of the comments you received on the Hybrid III test dummy rulemaking.

[The information follows:]

The agency received eighteen comments from automobile manufacturers, consumer interest groups, the insurance sector, and manufacturers of dummies and associated impact instrumentation. A summary of comments follows:

(1) None of the respondents opposes the exclusive use of the dummy.

(2) The majority of the respondents request some modifications in design and specifications and the resolution of petitioned items before the dummy's mandatory use date.

(3) Fewer than half of the respondents urge the agency not to link the issuance of the final rule mandating the use of the dummy with other issues such as modification of current injury criteria or introduction of new criteria, adjustment in dummy design and specifications to facilitate the dummy's manufacture, addition of new or improved instrumentation and its mounting, etc.

(4) Approximately half of the commenters concur with the proposed September 1, 1996, mandatory use date and others argue for either its advancement or postponement.

(5) Consumer advocates and insurance interests argue for more rigorous chest deflection requirements and a concurrent issuance of a Notice of Proposed Rulemaking to limit tibia and ankle injuries.

BOOKLET COMPARING REPAIR COSTS

Mr. CARR. Earlier this year, NHTSA issued regulations as part of a settlement of a lawsuit, *Consumers Union v. Skinner.* These regulations require new car dealers, beginning April 1993, to make available on request to potential customers a booklet comparing repair costs for different makes and models. As I understand it, the booklets are prepared by NHTSA based on data on vehicle insurance costs compiled by the Highway Loss Data Institute (HLDI) and made available to the dealers who must make their own copies available for consumers. NHTSA officials have been quoted as saying, "We don't think this is government at its best. . . . But we had to do it, and this is the best we could come up with." Do you believe that providing consumers with this information is a waste of time and effort?

[The information follows:]

Essentially, yes. Title II of the Motor Vehicle Information and Cost Savings Act requires NHTSA to provide information which compares differences in insurance costs for different makes and models of passenger cars based on differences in damage susceptibility. The dealers are then required, by the Act, to distribute the information to prospective purchasers. While this is a worthy goal, it is impossible to implement in a meaningful manner.

Over the past fifteen to twenty years the agency has scrutinized all available data that might reflect differences in insurance costs for different makes and models based on differences in vehicle damage susceptibility. Most of the factors associated with determining the cost of an automobile insurance policy—in this case, the collision premium is the relevant part of the policy—are not directly related to the vehicle (except for vehicle cost when new, or appraised cost, if used). The dominant factors, based on insurance company loss statistics, are attributed to driver characteristics and/or the geographic location in which the vehicle is driven. In addition, insurance rates for the same vehicle vary considerably among different insurance companies.

Nonetheless, differences in collision loss payment among passenger vehicle makes and models are one factor (albeit a very minor one) in determining collision insurance rates. Since the law requires us to issue a rule regardless of the strength of the relationship between collision premiums and a vehicle's susceptibility to damage, we had no choice but to issue the regulation as Consumers Union had requested. The HLDI data used in our regulation provide collision loss payments per insured vehicle year by make and model. While this information is of limited usefulness to consumers, accounting for no more than five percent of total premiums, it is the only data available which provides some relationship between insurance cost and damage susceptibility of different makes and models.

ADDING NCAP DATA TO BOOKLET COMPARING REPAIR COSTS

Mr. CARR. Doesn't fatality and injury experience rank higher in terms of relative importance than the damage to the sheetmetal and plastic of the cars? It seems plausible that consumers would be more interested in relative fatality/injury experience for vehicles they are considering purchasing rather than in relative auto-body repair cost data. Would the booklet be more timely, convenient, and useful if the NCAP data were summarized in the document you are providing to the dealers?

[The information follows:]

Recent surveys by the Insurance Institute for Highway Safety certainly support the premise that vehicle safety performance information is important to consumers in making their new car purchasing decisions. In this regard, the NCAP data are made available to millions of consumers through the agency press releases, the agency hotline, and publications such as Consumers Report.

The insurance information booklet furnished to dealers references the NCAP program and explains that consumers may obtain copies of the crash test results by calling the agency's toll free Auto Safety Hotline. Although methods for obtaining the NCAP data are given in the booklet, it is not feasible to include up-to-date NCAP data in this publication. NCAP data are generated on a continuing basis as vehicles are tested, thus the most timely data are available to consumers through the agency press releases and the hotline. Also, since the NCAP data are not related to insurance costs, the agency believes that it would be confusing to consumers to include these data in the insurance information booklet.

COST OF PROVIDING ADDITIONAL INFORMATION

Mr. CARR. What would it cost to provide that additional information?

[The information follows:]

Although methods for obtaining the NCAP data are given in the insurance information booklet, it is not feasible to include up-to-date NCAP data in this publication. NCAP data are generated on a continuing basis as vehicles are tested, thus the most timely data are available to consumers through the agency press releases and the hotline. Also, since the NCAP data are not related to insurance costs, the agency believes that it would be confusing to consumers to include these data in the insurance information booklet.

OFF-ROAD VEHICLES

Mr. CARR. NHTSA's authority covers vehicles manufactured primarily for use on the public roads, but vehicles designated as primarily off-road vehicles appear to be exempt from NHTSA's safety standards and recalls for defective vehicles. To what extent is NHTSA familiar with off-road motorcycles and the similarities many of these vehicles have with street-legal models?

[The information follows:]

The National Traffic and Motor Vehicle Safety Act of 1966 authorizes NHTSA to regulate motor vehicles "manufactured primarily for use on the public streets, roads, and highways" (15 U.S.C. § 1391(3)). Accordingly, vehicles that use the highways infrequently and only incidentally to their off-road use are not "motor vehicles" under the statute and are not subject to the NHTSA's safety standards and recalls for defective vehicles.

Because NHTSA does not regulate "off-road motorcycles," the agency currently is not familiar with these vehicles or the similarities they may have with "street-legal" models. However, if a case occurs where NHTSA is presented with a manufacturer's conclusion that a "off-road motorcycle" is not manufactured primarily for on-road use, the agency would analyze the features of these vehicles and any similarities they may have with on-road motorcycles.

OFF-ROAD MOTORCYCLES

Mr. CARR. What authority, if any, do you have over off-road motorcycles that may differ from street-legal motorcycles in only minor details? For example, is it possible to include similar off-road models in a NHTSA safety recall campaign? If so, please provide examples of such actions NHTSA has taken.

[The information follows:]

As the previous question recognizes, NHTSA's authority covers motor vehicles primarily manufactured for use on the public roads. A motorcycle that is "street legal," to use the terminology of this question, is one that is certified by its manufacturer as complying with all applicable Federal motor vehicle safety standards. If a motorcycle has not been certified and differs "from street-legal motorcycles in only minor details," NHTSA may conclude that the cycle, in fact, has been manufactured primarily for on-road use and take steps appropriate to implement its conclusion, including requiring the manufacturer to conduct safety recall campaigns when circumstances warrant.

On the other hand, NHTSA has not questioned the determination by manufacturers that such uncertified motorcycles as minibikes, trail bikes and all-terrain vehicles are not manufactured primarily for on-road use. Since these uncertified motorcycles are not "motor vehicles", NHTSA has no authority to require their manufacturers to conduct safety recall campaigns.

OFF-ROAD MOTORCYCLES: ANNUAL SALES

Mr. CARR. Do you know how many of these vehicles are sold each year?

[The information follows:]

In 1991, 73,000 off-highway motorcycles were sold in the United States, according to the *Motorcycle Statistical Annual,* Motorcycle Industry Council, Inc. (1992). An "off-highway motorcycle" means a motorcycle that is not certified by the manufacturer to be in compliance with the applicable Federal motor vehicle safety standards. In addition, 151,000 all-terrain vehicles (ATVs) were sold in 1991 *(Motorcycle Statistical Annual,* 1992).

OFF-ROAD MOTORCYCLES: OTHER AGENCY'S EFFORTS

Mr. CARR. Are you aware of any other agency's efforts to identify or address possible safety problems relating to these vehicles? If so, please provide specific examples.

[The information follows:]

NHTSA is aware of the Consumer Product Safety Commission's (CPSC) efforts to address possible safety problems relating to three-wheeled all-terrain vehicles (ATVs). On December 30, 1987, CPSC entered into a preliminary consent decree concerning these vehicles. On January 28, 1988, the Subcommittee on Commerce, Consumer and Monetary Affairs, House Committee on Government Operations, held a hearing to review CPSC's actions with respect to this settlement.

OFF-ROAD MOTORCYCLES: AGENCY OVERSIGHT

Mr. CARR. Would NHTSA be an appropriate agency to exercise oversight over the safety of such off-road motorcycles, including the establishment of safety standards and recalling vehicles with safety-related defects?

[The information follows:]

Motorcycles with a dual off-road/on-road capability are already subject to NHTSA's Federal motor vehicle safety standards and recall authority. The safety of "off-road motorcycles" that cannot be licensed for use on the public roads appears to come under the jurisdiction of the Consumer Product Safety Commission. Under section 3 of the Consumer Product Safety Act (15 U.S.C. § 2052(a)(1)), the definition of "consumer product" expressly excludes "motor vehicles or motor vehicle equipment (as defined by section 102 (3) and (4) of the National Traffic and Motor Vehicle Safety Act of 1966)," and states that:

"The term 'consumer product' means any article, or component part thereof, produced or distributed (i) for sale to a consumer for use in or around a permanent or temporary household or residence, a school, in recreation, or otherwise, or (ii) for the personal use, consumption or enjoyment of a consumer in or around a permanent or temporary household or residence, a school, in recreation, or otherwise. . . ."

The agency has not taken a position on whether NHTSA, as opposed to CPSC, is the proper oversight agency on the safety of "off-road motorcycles." To shift responsibility would require an amendment of the applicable laws.

OFF-ROAD SPORT AND UTILITY VEHICLES

Mr. CARR. In addition to selling off-road motorcycles, motorcycle importers also sell 4-wheeled sport and utility vehicles designated primarily for off-road use. What authority, if any, does NHTSA have over these vehicles?

[The information follows:]

NHTSA is unaware of any 4-wheeled sport/utility vehicles that are not under the agency's authority. As indicated earlier, NHTSA may contest a manufacturer's conclusion that a vehicle is not manufactured primarily for on-road use. If NHTSA determines that the vehicle is actually manufactured primarily for on-road use, then the vehicle is subject to NHTSA's full regulatory authority under the National Traffic and Motor Vehicle Safety Act. However, if the agency concludes that the facts regarding a particular vehicle would not support such a determination, then the agency would not have any authority over the vehicle.

OFF-ROAD VEHICLES: AGENCY OVERSIGHT

Mr. CARR. What is the agency's view of whether NHTSA would be a proper oversight agency regarding the safety of these over off-road motorcycles or the 4-wheeled sport/utility vehicles?

[The information follows:]

NHTSA already exercises jurisdiction over motorcycles with a dual off-road/on-road capability, and over other motor vehicles that use the public highways on a necessary and recurring basis, like the Jeep, a 4-wheeled sport/utility vehicle. However, the safety of "off-road motorcycles" that cannot be licensed for use on the public roads appears to come under the jurisdiction of the Consumer Product Safety Commission. Under section 3 of the Consumer Product Safety Act (15 U.S.C. § 2052(a)(1)), the definition of "consumer product" expressly excludes "motor vehicles or motor vehicle equipment (as defined by section 102 (3) and (4) of the National Traffic an Motor Vehicle Safety Act of 1966)," and states that:

"The term 'consumer product' means any article, or component part thereof, produced or distributed (i) for sale to a consumer for use in or around a permanent or temporary household or residence, a school, in recreation, or otherwise, or (ii) for the personal use, consumption or enjoyment of a consumer in or around a permanent or temporary household or residence, a school, in recreation, or otherwise. . . ."

The agency has not taken a position on whether NHTSA, as opposed to CPSC, is the proper oversight agency on the safety of "off-road motorcycles." To shift responsibility would require an amendment of the applicable laws.

ODOMETER PROGRAM: FUNDING

Mr. CARR. You are requesting $100,000 in fiscal year 1994 for the Odometer Program, the same level as in fiscal year 1993. What meaningful enforcement can be accomplished with this amount of money?

[The information follows:]

The funds will be used to award enforcement support contracts to four states. The contract program provides "seed money" to state enforcement agencies to create interest in odometer fraud enforcement. This effort will enhance the odometer enforcement program by publicizing the odometer fraud problem and enabling State enforcement agencies to establish and maintain more aggressive odometer enforcement programs, thereby achieving its goal of deterring odometer fraud. This contract program has been very successful since its inception in 1989. Thus far, 12 contracts have been completed. State agencies which received contracts conducted 1,684 investigations, seven statewide consumer awareness programs, and recovered $387,075 for defrauded consumers during contract period.

ODOMETER FRAUD STUDY

Mr. CARR. Page GENAD–5 of the justifications indicates that you plan to initiate a major study of odometer fraud. What do we currently know about the extent of the problem and what do you hope to accomplish with this study?

[The information follows:]

Odometer fraud has been estimated to cost the American consumers between $2 billion and $4 billion, annually, in the form of inflated vehicle prices. While the agency has been able to measure the amount of fraud involving one-time leased vehicles, a complete, statistically accurate estimate of the magnitude of fraud in all used-car markets has not been made. In addition to providing the magnitude and costs of odometer fraud, the study will provide an assessment of the effectiveness of the Truth in Mileage Act of 1986 on specific Federal/state enforcement programs. The results will be used as a basis for developing recommendations for the future direction of odometer fraud programs at the Federal and state levels.

ODOMETER PROGRAM: GRANTS

Mr. CARR. What states currently receive grants under the Odometer Program, and what additional states do you anticipate funding in fiscal year 1994?

[The information follows:]

Fiscal year 1993 contracts were awarded to the Georgia Department of Motor Vehicles, Florida Department of Highway Safety, Arkansas State Police, and Aurora, Colorado Police Department. These contracts were awarded on a competitive basis. The fiscal year 1994 contracts will be awarded to the four states that submit the proposals which best meet the goals of establishing strong and self-sufficient state odometer enforcement programs.

ENFORCEMENT PROGRAM BUDGET JUSTIFICATION

Mr. CARR. You are requesting $17.9 million for the Enforcement Program, an increase of 9 percent over the current fiscal year. What measurable results do you hope to achieve with these additional funds?

[The information follows:]

In the Defects Investigation Program, an additional $875 thousand is requested. These additional funds would be used in two basic areas. First, $325 thousand would be used to generate an increase in the public's awareness and use of the Auto Safety Hotline. The Hotline is the source of consumer complaints used to identify potential safety defects in motor vehicles and items of motor vehicle equipment. It is also a convenient and efficient means for providing consumers with information on a wide range of motor vehicle safety issues. The current volume of calls received by the Hotline (563,000 calls in 1992) saturates the Hotline's ability to receive and process additional calls. As a result, callers have to either wait for a long period of time to talk to a Hotline operator or not get through to an operator. The $325,000 requested for the Hotline will be used to further inform the public of the Auto Safety Hotline, install additional equipment, train Hotline operators to increase efficiency, and contract for additional Hotline operators to handle further increases in consumer calls. The benefits of this increase in funding will be measured by an increase in the number of phone calls to the Hotline, not only to report information on potential safety-related defects in motor vehicles and items of motor vehicle equipment, but also to obtain motor vehicle safety information on a wide variety of subjects. The increased consumer calls reporting a defect and have unsafe vehicles and items of motor vehicle equipment remedied sooner.

Separately, the $550,000 would be used to increase the capabilities of the Office of Defects Investigation to conduct testing of complex systems in modern motor vehicles. Over the past two decades, motor vehicles have become increasing more complex, particularly in terms of electronics, computer-controlled systems, and the use of alternative materials. While such advances have made modern motor vehicles more efficient in terms of energy use and emissions, such advances have made it increasingly more difficult to identify and investigate potential safety-related defects. In order for the agency to conduct thorough, comprehensive investigations of alleged defects, and reach reasoned conclusions, it must possess the capability to conduct testing consistent with the levels of technology in the vehicles being investigated. The increased funds will provide testing enhancements, including access to additional testing facilities with high-technology test capabilities and more field investigations of potentials defects. The benefits of this increased these capability cannot be measured directly, however, it will be reflected in the technical soundness of the Office's decisions to either pursue or close an investigation, based on the technical merits of the problems involved.

The FY 1994 Vehicle Safety Compliance program will continue to emphasize the testing of vehicles and vehicle equipment to ensure compliance with Federal motor vehicle safety standards. Funding of $5.4 million, an increase of $548 thousand compared with FY 1993, is requested to provide a comprehensive compliance test program and to permit side impact compliance testing of 15 passenger cars for compliance with the dynamic side impact requirements, which become effective in FY 1994.

A rigorous compliance test program, initiated as a standard becomes effective, has two important effects. First, a motor vehicle manufacturer will strive to ensure that vehicles it produces meet the performance requirements by a wide margin, in order to minimize the risk of noncompliance. Second, such a test program is able to identify noncompliance early in the production year. Both of these effects will increase safety for the American public. First, wide margins of compliance further reduce real world injury risks and thereby increase safety benefits. Second, prompt identification of noncompliance leads to fast removal of unsafe vehicles from the road.

NONCOMPLIANCE AREAS

Mr. **Carr**. Last year, you told us that your biggest compliance problems were found on the following safety standards: occupant crash protection, child safety seats, and fuel system integrity. Are these still the areas where the greatest noncompliance is found?

[The information follows:]

In responding to this question, we are defining "problem" as an apparent noncompliance in a test of a safety standard which has significant safety consequences. The three major compliance areas still involve those standards dealing with occupant crash protection, child safety seats, and fuel system integrity for school buses. A summary of test results for FY 1992 (FY 1993 testing is in progress) involving these standards follows:

Standard	Number		Rate (percent)
	Tests	Fail	
FMVSS 208—Occupant Crash Protection	31	6	19
FMVSS 213—Child Restraint Systems	1498	69	5
FMVSS 301S—Fuel System Integrity (School Buses)	5	2	40

The agency will continue to test these standards to ensure that manufacturers are providing products that comply.

NONCOMPLIANCE: AGENCY ACTIONS

Mr. **Carr**. What actions do you take to improve the performance of these systems?

[The information follows:]

The agency has established a compliance testing program to verify compliance with Federal Motor Vehicle Safety Standards. In the event of a test failure, the manufacturer is contacted and advised of the test result and certification information is requested. The agency moves quickly to resolve any issue concerning differences between the manufacturer's certification test results and the agency's compliance verification test results. Should a noncompliance be indicated, the agency will seek an expeditious remedy through a recall campaign. The purpose of the recall is to ensure the noncomplying vehicle or vehicle equipment is remedied, thereby ensuring the safety benefits associated with safety standards are achieved. Our oversight program ensures that manufacturers are constantly monitoring the safety performance of their products in order to minimize the possibility of noncompliance during a NHTSA test.

COMPLIANCE TEST FAILURE DATA

Mr. Carr. For the record, please update the data on compliance test failures as shown on pages 921–923 of last year's hearing record.

[The information follows:]

FMVSS No. & Description	FY91 Fail Rate (%)	FY92 Fail Rate (%)
103 Windshield Defrosting & Defogging	0	0
104 Windshield Wiping & Washing	0	0
105 Hydraulic Brake System	0	0
106 Brake Hoses	0	4
108 Lamps, Reflective Devices, etc.	[a]36	NT
109 New Tires-Passenger Cars	0	0
110 Tire Selection-Passenger Cars	0	0
111 Rearview Mirrors	NT	NT
116 Hydraulic Brake Fluids	[b]90	[c]80
118 Power-Operated Window Systems	0	0
119 New Tires-Trucks & Buses	0	0
120 Tire Selection-Trucks & Buses	NT	0
121 Air Brake Systems		
Vehicle Tests	0	NT
Dynamometer Tests	0	NT
122 Motorcycles Brake Systems	0	0
124 Accelerator Control Systems	0	0
125 Warning Devices	[d]67	[e]47
126 Truck-Camper Loading	NT	NT
129 New Non-Pneumatic Tires-Pass. Cars	NT	NT
201 Occ. Protection In Interior Impact	NT	0
202 Head Restraints	0	NT
203 Driver Impact Prot.-Steering Control	0	0
204 Strg Column Rearward Displacement	0	0
206 Door Locks and Retention Components	0	0
207 Seating Systems	0	0
208 Occupant Crash Protection	[f]20	[g]19
209 Seat Belt Assemblies	3	0
210 Seat Belt Assembly Anchorages	[h]40	[i]14
212 Windshield Mounting	0	0
213 Child Restraint Systems (Overall)	3	5
Dynamic Tests	[j]7	[k]12
Component Tests	2	3
214 Side Impact Protection-Static	0	0
216 Roof Crush Resistance	NT	0
217 Bus Window Retention and Release	[m]60	0
218 Motorcycle Helmets	10	10
219 Windshield Zone Intrusion	0	0
220 School Bus Rollover Protection	NT	NT
221 School Bus Body Joint Strength	NT	NT
222 School Bus Passenger Seating	0	[n]33
301 Fuel System Integrity		
Frontal Fixed Barrier Impact Tests	0	0
Moving Barrier (MB) Rear Impact Tests	0	0
School Bus MB Lateral Impact Tests	[p]33	[q]40
302 Flammability of Interior Materials	0	0
581 Bumper Standard	0	0

NT = Not Tested

[a] Failures involved photometric tests of replaceable bulb headlamps

[b] Failures involved primarily labeling requirements

[c] Failures involved primarily labeling requirements

[d] 3 test samples failed the stability test and 3 test samples failed the orange luminance test

[e] 2 test samples failed the red reflectance test, 1 sample failed orange luminance test, and 4 samples failed the stability test

[f] 6 investigations where dummy HIC or chest Gs exceeded requirements in 30 mph crash tests, 2 recalls of 39,770 passenger cars (13,374 BMW cars and 26,395 Toyota cars)

[g] 6 investigations for occupant protection failures, 1 recall of 22,416 passenger cars

[h] 10 vehicles were tested but 4 of 5 conversion vans tested failed to meet seat belt anchorage strength requirements; 4 investigations and 4 recalls--19,193 conversion vans

[i] Another conversion van failure, 1 investigation and a recall of 1,100 vehicles

[j] 3 investigations initiated with 2 recall campaigns involving 8,487 child restraint systems to date; investigations are continuing

[k] 5 investigations initiated with 1 recall involving 1,000,000 child restraints; investigations are continuing

[m] 3 investigations, 2 for labeling (1 recall of 500 buses) and 1 emergency exit opening force failure (1 recall of 2,500 buses)
J58 (Cont)

[n] 1 investigation where a school bus manufacturer's seats did not meet height specification by a small margin, resolved by agency granting manufacturer's inconsequentiality petition

[p] 1 investigation of a fuel hose leak where chassis manufacturer recalled 11,346 school buses

[q] 2 test failures were combined in 1 investigation involving the same chassis manufacturer where 185,177 school buses were recalled for fuel tank leak failures

FISCAL YEAR 1993

	FMVSS No. and title	No. of Tests	No. of Items
105	Hydraulic Brake System	11	11
106	Brake Hoses	30	495
108	Lamps, Reflective Devices, etc.	48	48
109	New Pneumatic Tires-Pass. Cars	100	200
110	Tire Selection & Rims-Pass. Cars	5	5
111	Rearview Mirrors	5	5
116	Hydraulic Brake Fluids	30	30
119	New Pneumatic Tires-Trucks, Buses	70	120
120	Tire Selection & Rims-Trucks, Buses	5	5
122	Motorcycle Brake Systems	4	4
124	Accelerator Control Systems	15	15
201	Occ. Protection-Interior Impact	5	5
202	Head Restraints	10	10
203	Impact Protection For Driver From Steering Control System	7	7
204	Strg. Control Rearward Displacement	35	35
206	Door Locks & Door Retention Components	26	156
207	Seating Systems	10	10
208	Occupant Crash Protection	35	35
209	Seat Belt Assemblies	40	120
210	Seat Belt Assembly Anchorages	3	3
212	Windshield Mounting	35	35
213	Child Restraint Systems		
	Dynamic Tests	47	144
	Component Tests	40	1760
214	Side Impact Protection-Static	5	5
216	Roof Crush Resistance	5	5
217	Bus Window Retention/Release	4	4
218	Motorcycle Helmets	30	120
219	Windshield Zone Intrusion	35	35
220	School Bus Rollover Protection	4	4
222	School Bus Passenger Seating	4	4
301	Fuel System Integrity		
	Frontal Fixed Barrier Impact Tests	35	35
	Moving Barrier Lateral Impact Tests	10	10
	Moving Barrier (MB) Rear Impact Tests	15	15
	School Bus MB Lateral Impact Tests	3	3
302	Flammability Of Interior Materials	10	240

NHTSA 5-YEAR PLAN FOR COMPLIANCE TESTING

Mr. Carr. In February, NHTSA submitted a 5-year plan for testing motor vehicles and motor vehicle equipment for compliance with federal motor vehicle safety standards. Please provide a copy of the plan in the record and describe how you arrived at the testing schedule for the various safety standards.

[The information follows:]

5-YEAR PLAN FOR COMPLIANCE TEST PROGRAM
(FY92 - FY96)

MOTOR VEHICLE SAFETY STANDARD		FY92	FY93	FY94	FY95	FY96
103	Windshield Defrost/Defog	Test				Test
104	Windshield Wipe/Wash	Test				Test
105	Hydraulic Brake System	Test	Test	Test	Test	Test
106	Brake Hoses	Test	Test	Test	Test	Test
108	Lamps, etc		Test	Test	Test	Test
109	Pass Car New Tires	Test	Test	Test	Test	Test
110	Pass Car Tire Selection	Test	Test	Test		
111	Rearview Mirrors		Test	Test	Test	
116	Hydraulic Brake Fluids	Test	Test	Test	Test	Test
118	Power Window Systems	Test				Test
119	MPV/Trk/Bus New Tires	Test	Test	Test	Test	Test
120	MPV/Trk/Bus Tire Select	Test	Test	Test	Test	
121	Air Brake Systems				Test	Test
122	Motorcycle Brake Systems	Test	Test			Test
124	Accel Control Systems	Test	Test	Test	Test	
125	Warning Devices	Test				
126	Truck-Camper Loading				Test	
129	New Non-Pneumatic Tires	(*)				
131	School Bus Stop Arms	N/A		Test	Test	Test
201	Occ Protect Int Impact	Test	Test	Test		
202	Head Restraints		Test	Test	Test	Test
203	Dr Imp Protect-Strg Cont	Test	Test	Test		
204	Strg Cont Rearward Displ	Test	Test	Test	Test	Test
206	Door Locks & Hinges	Test	Test	Test	Test	Test
207	Seating Systems	Test	Test	Test	Test	Test
208	Occupant Crash Protection	Test	Test	Test	Test	Test
209	Seat Belt Assemblies	Test	Test	Test	Test	Test
210	Seat Belt Assy Anchorages	Test	Test	Test	Test	
212	Windshield Mounting	Test	Test	Test	Test	Test
213	Child Restraint Systems	Test	Test	Test	Test	Test
214	Side Impact Protection	Test	Test	Test	Test	Test
216	Roof Crush Resistance	Test	Test	Test		Test
217	Bus Wdo Retention/Release	Test	Test	Test	Test	Test
218	Motorcycle Helmets	Test	Test	Test	Test	Test
219	Windshield Zone Intrusion	Test	Test	Test	Test	Test
220	S/Bus Rollover Protection	Test	Test	Test	Test	
221	S/Bus Body Joint Strength	(**)				Test
222	S/Bus Passenger Seating	Test	Test	Test	Test	Test
301	Fuel System Integrity	Test	Test	Test	Test	Test
302	Flammability of Int Matls	Test	Test	Test	Test	Test
	STANDARDS TESTED--	31	31	31	29	30

N/A FMVSS not effective until FY93
* No test specimens available.
** Rule being revised. Testing will resume when revisions are in effect.

Standards which are more frequently tested are those standards where - -

1. High potential benefits will result from specific performance of vehicles or equipment to meet crash avoidance and crash protection requirements in the event of an accident

2. High consumer interest exists or is anticipated, thus it is necessary to assess differences in vehicle or equipment performance

3. Revisions to a standards' performance requirements have become effective or applicability has been extended to other vehicle types or equipment items

4. Projected trends in vehicle or equipment technology will affect manufacturers' certification (i.e., require new testing or analyses)

5. A large universe of vehicles or equipment items or high turnover rates in manufacturers requires continuous testing to maintain an enforcement presence in the marketplace

NONCOMPLIANCE: CIVIL PENALTY COLLECTIONS

Mr. CARR. Please provide for the record the amounts in civil penalties assessed and collected for noncompliance in each year from fiscal year 1987 through fiscal year 1992, and estimated for fiscal year 1993.

[The information follows:]

The civil penalties assessed and collected for noncompliance for fiscal year 1987 through fiscal year 1992 and the estimate for fiscal year 1993 as follows:

	Dollars
FY 1987	158,500
FY 1988	92,750
FY 1989	76,200
FY 1990	190,900
FY 1991	118,500
FY 1992	239,500
Estimate FY 1993	229,000

DEFECTS INVESTIGATION: BUDGET JUSTIFICATION

Mr. CARR. You are requesting $2.302 million in fiscal year 1994 for defect investigations. Please elaborate on why the costs of these investigations will increase by 31 percent in fiscal year 1994.

[The information follows:]

The $2.302 million, requested in fiscal year 1994 represents an increase of $550,000 over fiscal year 1993. The additional funding would be used to increase the capabilities of the Office of Defects Investigation to conduct testing of complex systems in modern motor vehicles. These tests enhance the technical soundness of defect investigations, thus providing a foundation for decisions to either close or pursue an investigation.

These requested funds would provide for increased testing capacity so that decisions can be made on defect investigations in a more expeditious manner. This approach will assist the defects investigation process by identifying defects earlier in the investigation process so that defective vehicles and vehicle equipment are recalled, thereby providing improved safety for the motoring public. Conversely, if testing indicates a defect is not present, the investigation will be closed. This will allow investigative resources to be shifted to other potential safety concerns.

Additionally, over the past two decades, motor vehicles have continued to become more technologically sophisticated, primarily due to environmental and energy conservation concerns. The increased used of electronic and computer-controlled systems, such as fuel injection systems, braking systems, and occupant restraint systems, makes it more difficult to detect, analyze, and understand safety-related problems in motor vehicles to determine if a defect exists. Just as it costs consumers more to have modern motor vehicles diagnosed and repaired, it costs NHTSA more to conduct laboratory testing of these motor vehicles. Also, the Office of Defects Investigation is committed to conducting technically thorough investigations. In order to accomplish this goal, it is necessary to conduct extensive testing and field evaluations in order to better understand the real-world safety implications of potential safety defects.

Finally, as aptly demonstrated in the past year, the Office of Defects Investigation is frequently petitioned to initiate a defect investigation, sometimes on highly-publicized, sensitive issues. In order to evaluate the merits of a petition, the agency frequently must expend considerable resources on an unanticipated basis. For example, in the course of evaluating a petition concerning the alleged inertial unlatching of safety belt buckles in real-world crashes, a petition that was ultimately denied, the agency spent over $100,000 to ensure that conclusions has a sound technical foundation.

DEFECTS INVESTIGATION: NEW CONSUMER PROGRAMS

Mr. CARR. Your justifications indicate that "consumer interest in the Defects Investigation program is demonstrated by the continued increase in calls to the agency's toll-free Auto Safety Hotline."

If this is the case, why do you need the requested increase of $325,000 to explore "programs to reach a significant number of consumers to draw them into a 'partnership' with the agency's defect investigatory process?"

[The information follows:]

In 1992, over 563,000 calls were received by the Auto Safety Hotline. This volume saturates the ability of the Hotline to receive and process additional calls. Based on the continued annual increase in Hotline calls, it is projected that the number of callers that are unable to get through to the Hotline, or who have to wait for a long period of time to talk to a Hotline operator will increase to a level which will result in current Hotline capacity insufficient to respond to the consumer demand. Approximately half of the $325,000 increase is requested to increase the Hotline call capacity. These funds would be used to purchase additional equipment, contract to obtain the services of additional Hotline operators as needed, and train the Hotline operators to be more effective and efficient in obtaining information from consumers and providing safety information to them.

Additionally, since consumer complaints to the Hotline are a critical source of information for identifying potential defects, if is critical that the existence, function, and services of the Hotline be transmitted to greater number of consumers. The other half of the $325,000 request will be used to increase consumers' awareness of the Hotline. This will provide a larger number of consumers an easy and efficient means of obtaining information on a wide variety of motor vehicle safety issues, and provide the agency with additional consumer complaints on safety-related problems with motor vehicles and items of motor vehicle equipment. These additional consumer complaints will provide for a more expeditious investigation of potential safety defects in the real world and assist the agency in making decisions as to whether the problem represents an unreasonable risk to motor vehicle safety. This more timely action directly benefits the motoring public by removing safety defects from the highways sooner.

Mr. CARR. How would the $325,000 be spent?

[The information follows:]

The additional $325,000 will be used to generate an increase in the public's awareness and use of the Auto Safety Hotline and to purchase the necessary equipment, operators, and operator training needed to respond to the expected increase in the number of consumer calls to the Hotline. Approximately half of the $325,000 would be used to further expand the public's awareness of the Hotline. To accomplish this, the agency intends to: (1) contract with motor vehicle-related organizations to develop and disseminate information about the Hotline; and (2) expand news media and pubic service announcement activities concerning the Hotline and the defects investigation program.

The additional increased funds would be used to increase the Hotline capacity in order to address the continued increase in consumer calls to the Auto Safety Hotline. The funds would be used to: (1) install additional equipment to handle approximately 800,000 calls per year, compared to the current Hotline capacity of approximately 550,000 calls; (2) contract for additional Hotline operators to meet the increase in consumer demand for Hotline services; and (3) conduct Hotline operator training to increase efficiency and effectiveness.

Mr. CARR. What organizations have been contacted to date to participate in this effort?

[The information follows:]

The agency continues to work with various news media organizations to promote consumer awareness of the Auto Safety Hotline. All agency news releases on safety issues include mention of the Auto Safety Hotline and its toll-free telephone number. A series of Public Service Announcements about the Hotline have been prepared and circulated to 10,000 newspapers throughout the country. These announcements focus on the Hotline as the place to call if a consumer has a safety-related problem with a motor vehicle. Additionally, new articles about the Hotline have been prepared and circulated to various print media. These articles discuss the

Hotline as a source of safety information for consumers and a source of real-world safety problems for NHTSA.

During the past year, the agency has worked with the American Trucking Association and the National Association of Truck Stop Operators to disseminate a Heavy Truck Safety Hotline brochure. Over 50,000 of these brochures have been distributed throughout the country. Additionally, we have met with representatives of the child safety seat community, including manufacturers and consumer activists, to develop better means of advising consumers of child safety seat recalls and the availability of the Auto Safety Hotline to report safety problems. The agency continues its efforts with the Automobile Club of Southern California to provide its members with information about the Hotline and copies of Vehicle Owner's Questionnaires, a form used by the agency to collect safety-related complaints from consumers. Finally, we have undertaken activities with the school bus media and national organizations to make them aware of the Auto Safety Hotline and to highlight the importance of having recall remedy work completed on school buses to ensure the safety of school children. All of these efforts have had positive results in terms of increased calls to the Office of Defects Investigation on heavy truck, child safety seat, and school bus safety issues.

Approximately half of the additional $325,000 requested increase for the Hotline will be used to further expand the public's awareness of the Auto Safety Hotline. The other half will be used to increase the capabilities of the Hotline to handle the continued increase in consumer calls to the Hotline.

DEFECTS INVESTIGATION: AUTO SAFETY HOTLINE IMPACT

Mr. CARR. How effective is the Auto Safety Hotline for consumer reporting of alleged safety defects?

[The information follows:]

Consumer calls to the Auto Safety Hotline are critical to the agency's ability to identify potential safety defects in a timely manner, so that recalls can be initiated and defects remedied promptly. In 1992, 88 percent of the agency's safety defect investigations were based on consumer complaints to the Auto Safety Hotline. As such, NHTSA's Auto Safety Hotline is a very efficient and effective means for consumers to notify the agency of safety problems with motor vehicles or items of motor vehicle equipment. The Hotline is toll-free and available 24 hours a day. The Hotline also has a TTY capability and the ability to respond to Spanish-speaking consumers. When calling the Auto Safety Hotline and speaking to an operator during normal working hours (8:00 a.m. to 4:00 p.m.) to report a safety problem, consumers have the choice of either providing information to the operator, who electronically enters the information into the agency's consumer complaint file in real time, or having the operator send them a Vehicle Owner's Questionnaire. The consumer can then fill out the postage-paid questionnaire and return it to the agency. In either case, the Hotline questionnaire and return it to the agency. In either case, the Hotline is set up to make the filing of consumer complaints as easy as possible.

The Hotline system is efficient and effective, but only when consumers are aware of it. The agency believes that it is important to have more consumers aware of the Hotline so they can use it for reporting safety-related problems, as well as to obtain a wide variety of information to increase their safety awareness.

DEFECTS INVESTIGATION: AUTO SAFETY HOTLINE STAFFING

Mr. CARR. What is the current staffing for the Hotline and what is planned for fiscal year 1994?

[The information follows:]

The Auto Safety Hotline is currently staffed with 12 operators and a Hotline supervisor. We do not plan to hire any additional government employees for the Hotline staff. Our plan is to increase calls to the Hotline through a variety of actions previously discussed. As the level of calls increase, we will add Hotline operators hired under contract to meet consumer demand.

SECOND OWNER NOTIFICATION RULEMAKING STATUS

Mr. CARR. Your priority plan indicates that NHTSA is considering rulemaking to establish criteria for issuance of second owner notification letters in recall campaigns. What is the status of your decisionmaking in this area?

[The information follows:]

In anticipation of issuing a Notice of Proposed Rulemaking (NPRM) requiring manufacturers to send second owner recall notification letter in certain instances, the agency obtained information on the current practices of the major domestic motor vehicle manufacturers. In all cases, Chrysler, Ford, and General Motors routinely provide some form of notification to second owners of recalled vehicles. This information has been useful in framing the NPRM proposing second owner notification. This is planned for issuance in summer 1993.

NONCOMPLIANCE RECALL CAMPAIGNS

Mr. Carr. How many safety standard noncompliance recall campaigns were initiated by NHTSA in fiscal years 1992 and 1993?

[The information follows:]

During fiscal year 1992, NHTSA's Office of Vehicle Safety Compliance initiated 28 investigations that led to 10 noncompliance recalls. Over 210 thousand vehicles and nearly 980 thousand items of motor vehicle equipment, including 970 thousand child safety seats, were recalled based on these 1992 investigations. Through the end of April 1993, there have been 28 noncompliance investigations and 3 noncompliance safety recalls for fiscal year 1993.

MAJOR ENFORCEMENT ACTIONS SUMMARY

Mr. Carr. Please update the summary of major enforcement actions similar to the list shown on page 925 of last year's hearing record.

[The information follows:]

MAJOR ENFORCEMENT ACTIONS FISCAL 1992 DEFECT INVESTIGATION ACTIVITIES - MAJOR RECALLS

Make	Problem	Number of Vehicles or Items
Honda Accord	Fuel Systems	903,219
Hyundai Excel Mitsubishi Precis	Exhaust Crankcase	895,000
Ford Explorer Ford Ranger Ford Bronco II Ford Aerostar	Automatic Transmission	792,000
Century	Child Seat Instructions	727,343
Chevrolet Corsica Chevrolet Beretta	Safety Belt	722,884
Ford Taurus Mercury Sable	Storage Compartment Lock	654,000
Volkswagen Golf Volkswagen GTI Volkswagen Jetta	Heater, Defroster	650,000
Century	Child Seat Shoulder Straps	644,313
Ford Taurus Mercury Sable	Safety Belt	565,000
Toyota Camry	Power Door Locks	554,000

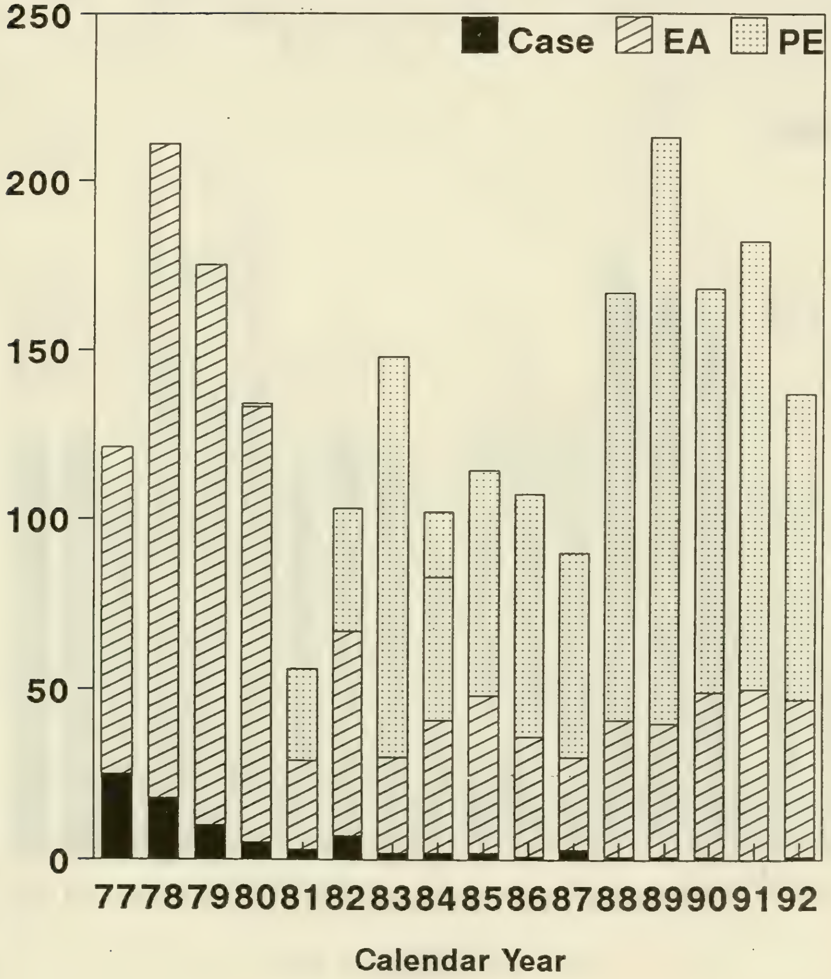
- Opened 1 case and closed 0 cases.
- Opened 160 Preliminary Evaluations (PE) and Engineering Analysis.
- Closed 188 PEs and EAs.
- Influenced 60 recalls as a result of PEs and EAs; 8.3 million vehicles and 1.6 million items of equipment.
- Evaluated 20 new petitions for defect investigation from the public. 10 petitions were denied, 3 granted and 6 were active at the end of the fiscal year.
- Closed 12 audits in the program to measure recall campaign performance.
- Received over 1,510 calls per day on the Hotline. Over 551,000 calls were received for recall information, for reporting a defect, for consumer information, and for subjects that were referred to other agencies.

DEFECT/RECALL HISTORICAL DATA

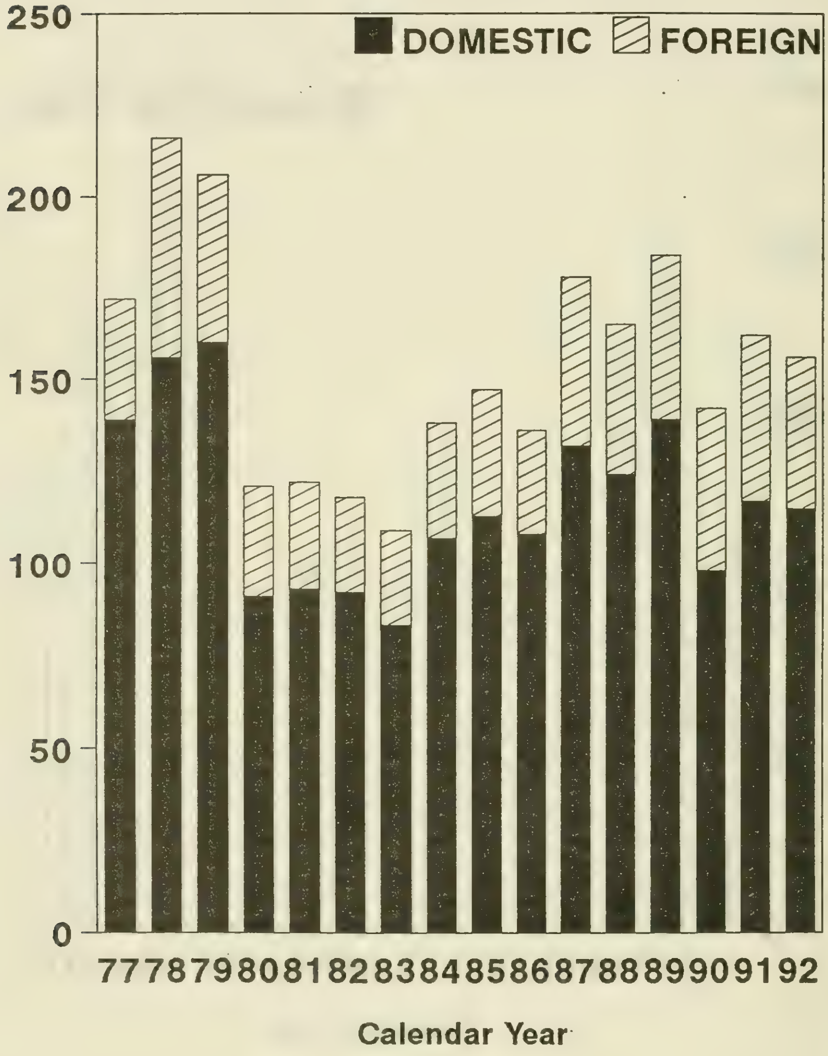
Mr. CARR. Please also update the defect/recall bar graphs shown on pages 876–880 of last year's hearing record.

[The information follows:]

ODI
Investigations Opened

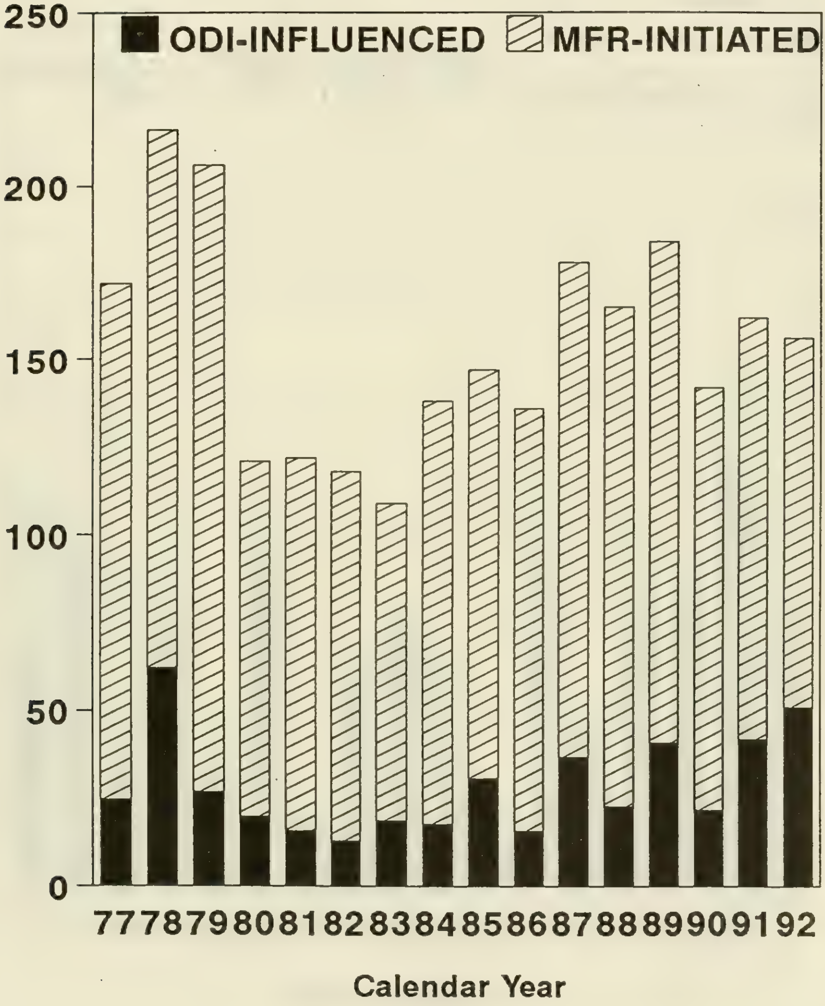


ODI VEHICLE RECALL CAMPAIGNS

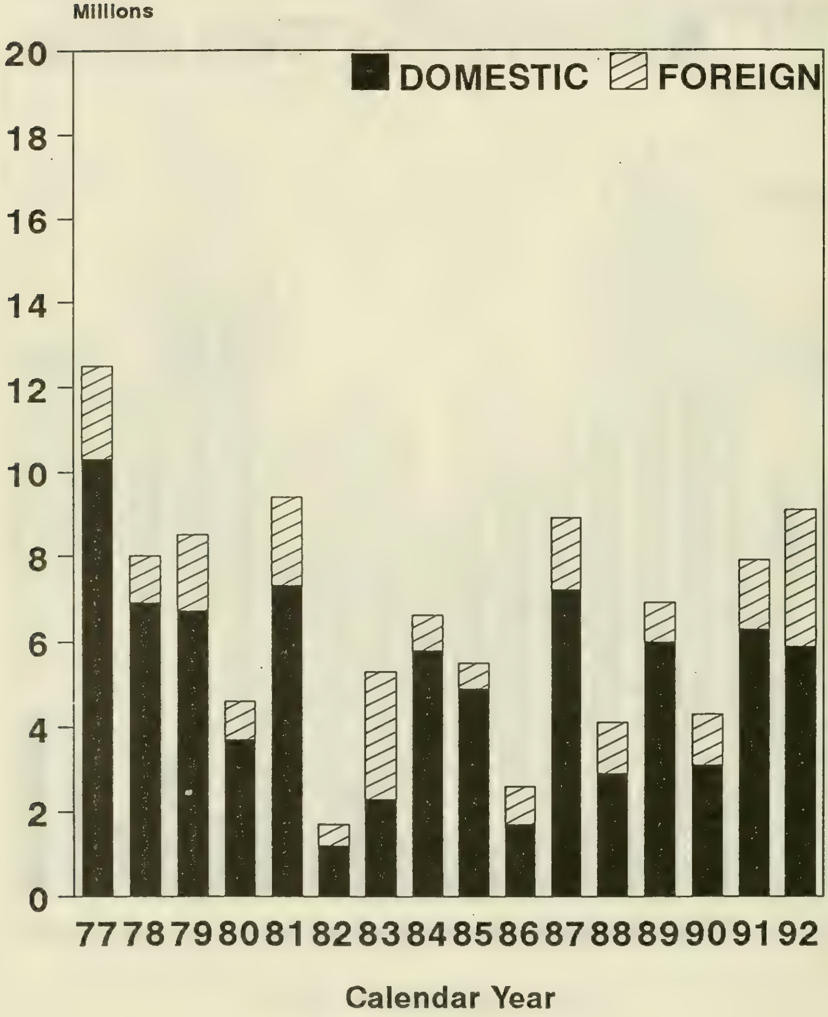


ODI INFLUENCED RECALLS

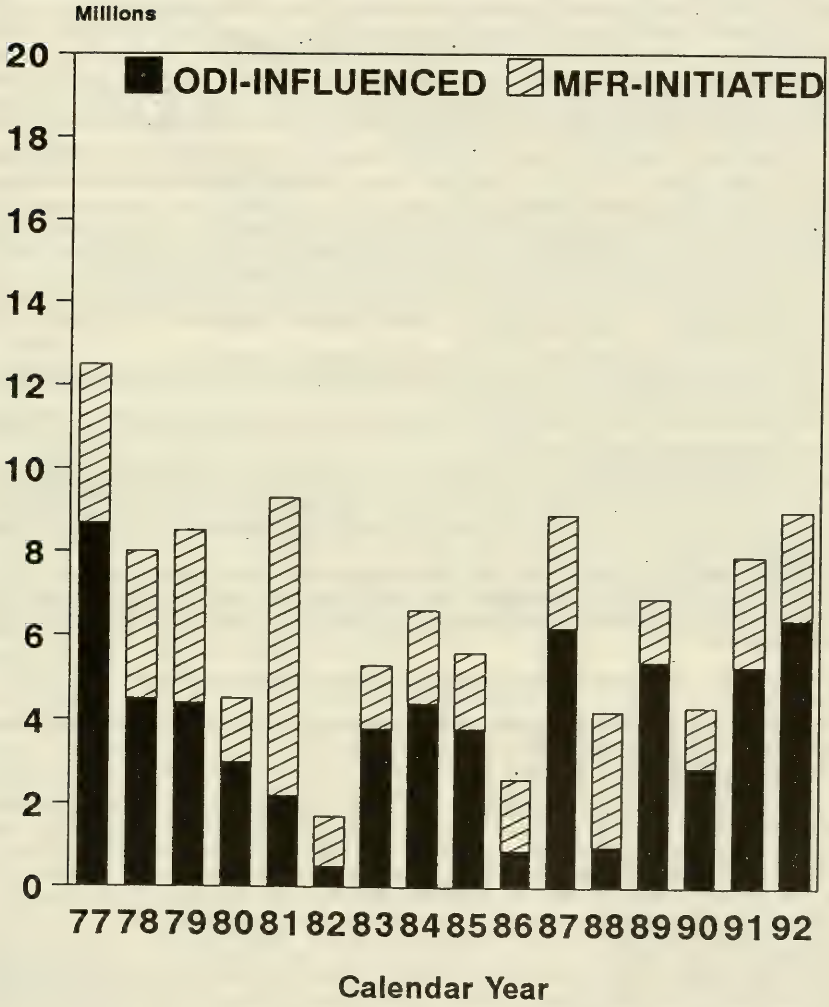
(BASED ON NO. OF VEH. DEFECT RECALLS)



NUMBER OF VEHICLES RECALLED
DUE TO A DEFECT



ODI INFLUENCE
ON VEHICLES RECALLED



MOTOR VEHICLE THEFT PREVENTION STUDY

Mr. Carr. Last year, NHTSA completed a study of motor vehicle theft prevention activities. What were the findings and recommendations of that study?

[The information follows:]

This agency prepared a report to Congress in response to the Appropriations Committees' request. The report is dated April 1992 and is titled Auto Theft-Resistance Study. The emphasis of the report was on the identification, description, and evaluation of existing and potential methods for reducing motor vehicle theft.

This report noted that even though the effectiveness of the theft prevention standard cannot be ascertained from analysis of available data, it is logical to presume that parts-marking (the inscribing or affixing of a label on 12/14 major parts of designated high-theft car lines) would aid in reducing "chop shop" operations. Law enforcement personnel at all levels endorse the parts-marking law and believe it is a valuable tool in the prosecution of auto theft.

In evaluating antitheft systems installed as standard equipment on car lines, the agency was unable to explain why theft rates of such vehicles fluctuated widely from model year to model year. An important factor could be the varying economic conditions of the marketplace. Should the market be flooded with parts, then theft rates tend to reduce. Additionally, shifting demands for various models from year-to-year in the theft community can contribute to the fluctuating theft rates.

The report emphasized that further theft reduction will require the concerted efforts by various Federal and State Governments, motor vehicle manufacturers, insurance companies, and the consumer.

In our report, the Department provided four recommendations:

(1) Allow the NHTSA to reestablish the median theft rate prescribed by the Theft Act to reflect more current theft data.

(2) Allow the NHTSA to redesignate high-theft car lines as low theft if their theft rates have decreased sufficiently.

(3) Amend the statute to remove the existing limitation for the number of exemptions allowed each manufacturer from parts-marking for use of an antitheft device.

(4) Allow the agency to continue to monitor the results of the existing passenger car parts-marking program to determine whether any definitive conclusions can be made in the future regarding its efficacy.

In the report, the Department also encouraged automotive insurers to voluntarily provide discounts on comprehensive insurance premiums for effective antitheft devices, and to participate in and financially support State motor vehicle theft prevention programs.

IMPLEMENTATION OF 1992 ANTI-CAR THEFT ACT

Mr. Carr. What progress have you made in implementing the 1992 Anti-Car Theft Act?

[The information follows:]

Section 140 of the Anti-Car Theft Act of 1992 requires that the Secretary establish a task force to study problems relating to motor vehicle titling, registration, and controls over motor vehicle salvage which may affect the motor vehicle theft problem. On April 23, 1993, Secretary Peña approved the establishment and membership of the Motor Vehicle Titling, Registration, and Salvage Advisory Committee. The Committee is to provide a report to Congress by April 1994 which will recommend viable ways to achieve national uniformity in motor vehicle titling and registration procedures and antitheft measures. Title II of the Act requires the establishment of a National Motor Vehicle Titling Information System by January 1996. The agency has initiated a review of systems used by the states to compile and maintain information concerning the titling of motor vehicles. This review will allow the agency to determine the cost, by January 1994, for each state to make titling information available to the system.

BUDGETARY RESOURCES FOR UTQC PROGRAM

Mr. CARR. For the record, please provide the budgetary resources in NHTSA's fiscal year 1993 and 1994 budgets to implement the UTQC program.

[The information follows:]

In FY 1993, the agency allocated $335 thousand for the Uniform Tire Quality Grading (TUQG) program, and the agency has requested $334 thousand for this program in FY 1994. This program is identified in the NHTSA budget submission as the operating expenses of the San Angelo test facility.

OLDER DRIVER RESEARCH ACTIVITIES

Mr. CARR. Please update the information shown on page 687 of last year's hearing record regarding older driver related activities to reflect the fiscal year 1994 request.

[The information follows:]

NHTSA's human-factors research program addresses older driver issues in two ways. (1) Older driver problems are studied as part of our research on vehicle subsystems. Experiments and tests of driver performance include older drivers, as well as younger drivers to provide data relevant to the broad range of the driving population. (2) Problems unique to older drivers and vehicle-based countermeasures that may hold particular promise to older drivers will be addressed in separate research projects.

Increased IVHS funding has provided support for human factors research focused on advanced technology devices that can assist drivers in preventing crashes, such as obstacle detection systems. Specific research underway or planned that will include or address older drivers issues are the following:

Visibility from Vehicles: Determine driver requirements (including older drivers) for fields of view and quality of images seen from vehicles. The requirements will be determined for various conventional and advanced vehicle visibility systems that may help older drivers, such as mirrors and head-up displays.

Crash Avoidance Warning Systems: Identify and prioritize the accident reduction potential of advanced technology driver warning systems (e.g., obstacle detection warning, back up alarms, drowsy driver warning); determine functional specifications for systems with high accident reduction potential; evaluate driver performance (including older drivers) using the warning systems; and determine driver requirements for effective warning systems.

Older Driver Crash Avoidance Countermeasures: Work has begun to survey technical literature and to develop a detailed experimental plan of research that focuses on the special problems that older drivers face when attempting to operate their motor vehicles. This program will focus on possible vehicle-based countermeasures, such as adaptive driving aids, special displays, and warning devices that could possibly be installed on motor vehicles to help older drivers better cope with the increasingly complex driving environment.

[Dollars in thousands]

	FY 91	FY 92	FY 93	FY 94
Visibility from vehicles	$130	$270	$65	$200
Crash avoidance warning systems	197	300	112	157
Older driver crash			125	500
Avoidance countermeasures	327	570	302	857

MCSAP/SECTION 402: NHTSA/FHWA COORDINATION

Mr. CARR. How much coordination has there been between NHTSA and FHWA on the MCSAP and Section 402 programs, particularly with respect to traffic enforcement activities for commercial truck motor vehicles?

[The information follows:]

As required by ISTEA, FHWA issued regulations implementing the requirement to coordinate MCSAP programs with Section 402 programs. Since the regulations were issued after development of plans for FY 1993 was already well underway, this is the first year that significant coordination between the NHTSA and FHWA in the development of grant programs is taking place.

We are working with FHWA to avoid funding conflicts. We recently shared our conforming products list with FHWA staff to ensure that Federal funds were not being used to fund items, such as radar equipment or breath testing devices, not on the approved list of products tested and found to meet minimum standards.

We continue to provide technical assistance to FHWA on appropriate traffic enforcement techniques. There are no NHTSA program funds committed to this effort. Under MCSAP, FHWA has $4.25 million committed by formula to the States for traffic enforcement. This funding will be used by police agencies when traffic enforcement activities are performed in conjunction with MCSAP inspections.

MCSAP/SECTION 402: DUPLICATION

Mr. **Carr**. Has a process been established which can identify duplication or conflicting grant applications under the two programs?

[The information follows:]

NHTSA and FHWA staff—both at Headquarters and in the field—have initiated regular meetings together to address interagency issues such as coordination between the Section 402 and MCSAP programs. In particular, these meetings will be used to establish procedures to avoid potential funding conflicts between the Section 402 and MCSAP grant programs.

REVISED PRIORITY PROGRAMS/SECTION 402 RULEMAKING

Mr. **Carr**. When does the agency intend to issue rulemaking on the revised priority programs and data collection requirements under the Section 402 program?

[The information follows:]

NHTSA plans to issue a Notice of Proposed Rulemaking (NPRM) soliciting public comment on the issue of adding speed and school bus safety to the list of National Priority Program Areas, as required by ISTEA, by mid-June.

To implement the Section 402 data collection requirements of ISTEA, a joint NHTSA/FHWA working group has been established to develop the program for collection and reporting of data on traffic-related deaths and injuries by the States.

SECTION 402 GRANT OBLIGATION TABLE

Mr. **Carr**. For the record, please update the table on Section 402 grant obligations as shown on page 955 of last year's hearing record by deleting 1988 and adding 1994.

[The information follows:]

[In thousands of dollars]

Program area	Fiscal year					
	Actual 1989 [2]	1990	1991	1992	1993 [1]	1994 [1]
Alcohol safety	36,260	38,686	38,354	31,811	31,050	33,210
Police traffic svcs	38,890	37,270	37,897	41,274	40,250	43,050
Emergency medical svcs	3,985	2,035	3,625	3,361	3,220	3,444
Occupant protection	18,721	18,344	17,101	20,997	20,470	22,013
Traffic records	5,667	5,855	6,268	5,791	5,635	6.027
Motorcycles	830	664	444	737	713	763
All other	3,797	6,916	5,888	8,876	8,509	9,225

[In thousands of dollars]

Program area	Fiscal year					
	Actual 1989 [2]	1990	1991	1992	1993 [1]	1994 [1]
Grant administration	4,850	4,885	5,078	5,153	5,153	5,268
Total	113,000	114,655	114,655	118,000	115,000	123,000

[1] The table reflects an estimated distribution of obligations based on current information and extrapolated to total amounts. The actual distribution of obligations will be determined by the States.

[2] The total amount does not include $2 million in 1989 which was diverted to the Federal Highway Administration for programs under the Commercial Motor Vehicle Safety Act of 1986.

SECTION 402: PRIOR YEAR CONTRACT AUTHORITY CARRYOVER

Mr. CARR. For the record, please provide a table showing the amount of prior year contract authority carried over into subsequent fiscal years for the Section 402 program, for fiscal years 1990–1993.

[The information follows:]

SECTION 402 STATE AND COMMUNITY FORMULA GRANTS

[Dollars in thousands]

	FY 1990	FY 1991	FY 1992	FY 1993
Unused contract authority, beginning of year	101,329	110,910	122,257	130,257
New contract authority	126,000	126,000	126,000	[2] 143,000
Reduction in contract authority	[1] −1,764			
Less: obligations	−114,655	−114,653	−118,000	−115,000
Unused contract authority, end of year	110,910	122,257	130,257	158,257

[1] Reduction pursuant to Revised Final OMB Sequester Report issued December 27, 1989.

[2] Authorized level of $171 million is reduced by authorized deductions of $24 million for the Section 153 grant program and $4 million for the National Driver Register program.

HIGHWAY TRAFFIC SAFETY GRANTS: LIQUIDATING CASH

Mr. CARR. Your estimated need for liquidating cash appropriation for highway traffic safety grants is $144 million in fiscal year 1994, compared to $150 million in 1993 and $130 million in 1992. Upon what assumptions of eligibility is the 1994 estimate based?

[The information follows:]

The request for liquidating cash appropriations for FY 1994 is in two parts: $137 million is requested as part of the regular program and an additional $7 million is requested as part of the investment program. This results in a total request of $144 million for liquidating cash for FY 1994.

The amount requested for liquidating cash each year is based on the carryover of unused liquidating cash appropriations from the prior year, the estimated outlays that will need to be paid during the budget year, and an additional amount necessary to maintain sufficient balances to cover unanticipated outlays and to provide a reasonable level of cash carryover into the next year. The outlay estimate each year is based on the balance of unexpended grant obligations from prior years, the level of new grant obligations for the budget year, and the outlay spend-out rate for individual grant programs.

The following table summarizes the liquidating cash appropriation and the planned obligation levels for FY 1994 in the highway traffic safety grant account:

HIGHWAY TRAFFIC SAFETY GRANTS, FY 1994

[Dollars in thousands]

	Regular program	Investment program	Total program
Liquidating cash appropriation	137,000	7,000	144,000
Obligation levels:			
Section 402 formula grants	118,676	4,324	123,000
Section 408 alcohol safety incentive grants	10,500		10,500
Section 410 alcohol-impaired driving countermeasure grants		25,000	25,000
Section 153 safety belt and motorcycle helmet use grants	12,324	2,676	15,000
National driver register	3,500		3,500
Total obligations	145,000	32,000	177,000

SECTION 410: FUNDING HISTORY

Mr. Carr. How much has been appropriated for the Section 410 program since its inception, and how much has actually been disbursed to states?

[The information follows:]

Since its inception, $33.9 million has been appropriated for Section 410. Under the original Section 410 program, $8.9 million was appropriated to NHTSA in FY 1990 and in FY 1991. Under the Section 410 program as amended in ISTEA, $25 million was appropriated to FHWA in FY 1992.

A total of $10.9 million has been disbursed. Under the original Section 410 program, $2.7 million was disbursed to states ($628 thousand to New Mexico in FY 1991 and $2.1 million to New Mexico and Indiana in FY 1992). Under the amended Section 410 program, $7.2 million was disbursed to 17 States, including D.C., in FY 1992.

SECTION 410: TOTAL GRANT AWARDS

Mr. Carr. Please provide for the record of listing of total Section 410 awards broken down by basic and supplemental awards for each state for fiscal year 1992, and estimated for fiscal years 1993 and 1994.

[The information follows:]

Attached is a table giving actual values for FY 1992 Section 410 awards and estimates for FY 1993 and FY 1994. The table shows nine new States qualifying in FY 1993. Currently, legislation is pending in several of these States that is necessary for 410 eligibility; it is likely that fewer States will actually qualify in FY 1993.

If these estimated States do qualify in FY 1993 and FY 1994, available funding will be insufficient to give every State its maximum allowable grant. Therefore, given the obligation limit we have for FY 1993, we have estimated that we can fund the States at 57% (Contingency column) of their formula calculation. At the end of the year, we will proportionately redistribute any remaining balance.

SECTION 410

STATE	ACTUAL 1992			EST. 1993				EST. 1994			
			MAX GRANT			MAX GRNT	CONTING.			MAX GRNT	CONTING.
	BASIC	SUPPLEMEN	TOTAL	BASIC	SUPPLEMEN	TOTAL	57%	BASIC	SUPPLM	TOTAL	70%
AK	$0	$0	$0	$206,516	$68,838	$275,354	$156,952	$206,516	$68,838	$275,354	$192,748
AZ	$213,780	$32,890	$246,670	$568,600	$189,534	$758,134	$432,136	$568,600	$189,534	$758,134	$530,694
CA	$1,490,939	$344,049	$1,834,988	$3,965,520	$2,643,680	$6,609,200	$3,767,244	$3,965,520	$2,643,680	$6,609,200	$4,626,440
CO	$222,544	$0	$222,544	$591,911	$295,956	$887,867	$506,084	$591,911	$295,956	$887,867	$621,507
DE	$77,645	$11,946	$89,591	$206,516	$68,838	$275,354	$156,952	$206,516	$68,838	$275,354	$192,748
DC	$77,645	$11,946	$89,591	$206,516	$172,095	$378,611	$215,808	$206,516	$172,095	$378,611	$265,028
HI	$77,645	$11,946	$89,591	$206,516	$103,257	$309,773	$176,571	$206,516	$103,257	$309,773	$216,841
IL	$642,729	$148,323	$791,052	$1,709,493	$854,748	$2,564,241	$1,461,617	$1,709,493	$854,748	$2,564,241	$1,794,969
IN	$895,963	$597,308	$1,493,271	$895,963	$597,308	$1,493,271	$851,164	$895,963	$597,308	$1,493,271	$1,045,290
IA	$0	$0	$0	$0	$0	$0	$0	$617,969	$411,980	$1,029,949	$720,964
KS	$0	$0	$0	$635,919	$423,944	$1,059,863	$604,122	$635,919	$1,059,863	$1,695,782	$1,187,047
ME	$0	$0	$0	$206,516	$137,676	$344,192	$196,189	$206,516	$137,676	$344,192	$240,934
MN	$0	$0	$0	$851,521	$425,760	$1,277,281	$728,050	$851,521	$425,760	$1,277,281	$894,097
MO	$0	$0	$0	$917,384	$152,897	$1,070,281	$610,060	$917,384	$152,897	$1,070,281	$749,197
MT	$104,239	$0	$104,239	$277,247	$92,416	$369,663	$210,708	$277,247	$92,416	$369,663	$258,764
NE	$0	$0	$0	$423,743	$211,872	$635,615	$362,301	$423,743	$211,872	$635,615	$444,931
NM	$193,114	$434,507	$627,621	$193,114	$434,507	$627,621	$627,621	$320,376	$160,188	$480,564	$336,395
NV	$97,508	$15,002	$112,510	$259,348	$172,900	$432,248	$246,381	$259,348	$172,900	$432,248	$302,574
NJ	$379,380	$0	$379,380	$1,009,052	$168,175	$1,177,227	$671,019	$1,009,052	$168,175	$1,177,227	$824,059
NY	$913,145	$0	$913,145	$2,428,730	$0	$2,428,730	$1,384,376	$2,428,730	$0	$2,428,730	$1,700,111
NC	$0	$0	$0	$1,031,770	$687,848	$1,719,618	$980,182	$1,031,770	$687,848	$1,719,618	$1,203,733
ND	$0	$0	$0	$296,705	$98,902	$395,607	$225,496	$296,705	$98,902	$395,607	$276,925
OH	$595,161	$45,782	$640,943	$1,582,973	$527,658	$2,110,631	$1,203,060	$1,582,973	$527,658	$2,110,631	$1,477,442
OR	$0	$0	$0	$580,995	$484,165	$1,065,160	$607,141	$580,995	$484,165	$1,065,160	$745,612
PA	$644,327	$0	$644,327	$1,713,742	$856,872	$2,570,614	$1,465,250	$1,713,742	$856,872	$2,570,614	$1,799,430
UT	$118,682	$36,516	$155,198	$315,662	$210,440	$526,102	$299,878	$315,662	$210,440	$526,102	$368,271
VA	$342,269	$26,328	$368,597	$910,346	$151,724	$1,062,070	$605,380	$910,346	$151,724	$1,062,070	$743,449
WV	$113,559	$8,735	$122,294	$302,037	$100,678	$402,715	$229,548	$302,037	$100,678	$402,715	$281,901
WI	$324,606	$74,910	$399,516	$863,369	$431,685	$1,295,054	$738,181	$863,369	$431,685	$1,295,054	$906,538
TOTAL			$9,325,068			$34,122,097	$19,719,472			$35,640,908	$24,948,636
APPROP.			$25,000,000				$19,748,180				$25,000,000

SECTION 410: TECHNICAL ASSISTANCE FUNDS LIMITATION

Mr. Carr. You have proposed bill language limiting funds available for technical assistance under Section 410 to $500,000 in fiscal year 1994. What is the rationale for this language?

[The information follows:]

The authorization in ISTEA, as amended by Title VI of P.L. 102-388, provides that up to 5 percent of authorized funding for the Section 410 program can be used to cover the costs of administering the program. However, the Department of Transportation Appropriations Act for FY 1993 includes a provision establishing a lower obligation limitation for the costs of administering the Section 410 program during FY 1993. The proposed appropriation language for FY 1994 includes a similar limitation, thereby continuing the approach used during FY 1993 to identify clearly the amount of obligations that can be used each year for this purpose. Alternatively, it would be possible for NHTSA to determine administratively the amount of obligations that can be used for administering Section 410, providing the amount is within the 5 percent maximum level that was provided in the ISTEA authorization.

SECTION 410: JUSTIFICATION EXPLANATION

Mr. Carr. Please elaborate in the record on the following statement on page HTSG-15 of the justifications regarding the Section 410 program: "A provision in the fiscal year 1993 Appropriations Act for DOT increased the incentive amounts available to States for both basic and supplemental grants. Consequently, even if the same number of states qualified in fiscal year 1994 and fiscal year 1992, a larger funding level would be needed to satisfy statutory requirements: over $23 million would be needed for fiscal year 1994 compared to $8.2 million in fiscal year 1992."

[The information follows:]

In FY 1992 under Section 410 as amended by ISTEA, the $25 million available for Section 410 grants was allocated by formula among all states while only those States that satisfied the necessary requirements were qualified to receive grants. Seventeen States, including D.C., qualified for new Section 410 basic grants and 12 of these States qualified for supplemental grants also.

Congress amended the Section 410 award procedures through provisions in the DOT Appropriations Act for 1993. Beginning in FY 1993, a qualifying State is eligible for a basic grant equal to 30 percent of its FY 1992 apportionment under Section 402 and a supplemental grant equal to 5 percent of its FY 1992 Section 402 apportionment for each supplemental grant criterion which it meets. Therefore, the Section 410 grant amounts became tied to the Section 402 authorization, where a total of $137,677,000 was apportioned among all States in FY 1992 for the NHTSA and FHWA programs.

This change in funding formula increases the incentive grant amounts available to every State. For example, Ohio, which received $595,161 for a basic grant and $45,782 for one supplemental grant in FY 1992 would be eligible for $1,582,973 for a basic grant and $263,829 for one supplemental grant in FY 1993 and later years.

SECTION 408: UNOBLIGATED FUNDS

Mr. Carr. Please provide for the record your most recent estimate of the amount of unobligated funds in the Section 408 program that will remain at the end of fiscal year 1993 and fiscal year 1994, under your budget proposal.

[The information follows:]

SECTION 408 ALCOHOL SAFETY INCENTIVE GRANTS

[Dollars in thousands]

	FY 1993	FY 1994
Unused contract authority, beginning of year	27,993	16,993
Less: obligations (estimated)	−11,000	−10,500
Unused contract authority, end of year	16,993	6,493

SECTION 408: ELIGIBLE STATES

Mr. CARR. Please update the listing provided on page 960 of last year's hearing record which shows States eligible and ineligible for Section 408 grant funds.

[The information follows:]

The following thirty States have qualified for Section 408 funding: Alabama, Alaska, Arizona, California, Colorado, Connecticut, Delaware, Hawaii, Idaho, Illinois, Indiana, Kansas, Louisiana, Maine, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, North Dakota, Oklahoma, Oregon, Rhode Island, Utah, Washington, West Virginia, and Wisconsin.

The following twenty-two States (including D.C. and Puerto Rico) have not qualified for Section 408 funding: Arkansas, District of Columbia, Georgia, Florida, Iowa, Kentucky, Maryland, Massachusetts, Michigan, Minnesota, New York, North Carolina, Ohio, Pennsylvania, Puerto Rico, South Carolina, South Dakota, Tennessee, Texas, Vermont, Virginia, and Wyoming.

Mr. CARR. Please list each of the Section 408-qualified states which will have completed all five years of eligibility by the end of the fiscal year 1993, and provide the corresponding level of 408 grant funding for each of the states in fiscal year 1993.

[The information follows:]

Four states could complete all five years of eligibility by the end of FY 1993: Arizona ($280,565); Oregon ($332,029); Oklahoma ($858,018); Illinois ($929,649). Fifteen other States completed all five years of eligibility prior to the start of FY 1993: Alaska, Delaware, Indiana, Louisiana, Maine, Mississippi, Montana, Nevada, New Hampshire, New Mexico, New Jersey, North Dakota, Rhode Island, Utah, and Washington.

SECTION 408: ADDITIONAL QUALIFYING STATES

Mr. CARR. What additional states do you expect to qualify between now and the end of fiscal year 1994, and what is the basis for the projection of the states anticipated to participate?

[The information follows:]

To date, Nebraska is the only new State to qualify for Section 408 in FY 1993; no others are expected in FY 1993. In Iowa, New York, and Pennsylvania, legislative action has been taken to pass new, more effective impaired driving laws. If any of these States are successful in passing laws which take effect in FY 1994, they may qualify for Section 408 funding.

SECTION 408: STATE-BY-STATE DATA

Mr. CARR. Please update the state-by-state data on Section 408 grant obligations, as shown on pages 962–963 of last year's hearing record, by providing data for 1992 and deleting 1988.

[The information follows:]

BASIC, SUPPLEMENTAL AND TOTAL 408 ALCOHOL SAFETY GRANT OBLIGATIONS

AK	1989	1990	1991	1992	FY 89-92 TOTALS
Basic	157,200	0	0	0	157,200.00
Suppl.	104,800	0	0	0	104,800.00
Total	262,000	0	0	0	262,000.00
AZ					
Basic	0	420,848	420,848	841,696	1,683,392.00
Suppl.	0	280,565	280,565	280,565	841,695.00
Total	0	701,413	701,413	1,122,261	2,525,087.00
DE					
Basic	0	157,200	157,200	0	314,400.00
Suppl.	0	104,800	104,800	0	209,600.00
Total	0	262,000	262,000	0	524,000.00
IN					
Basic	723,902	0	0	0	723,902.00
Suppl.	482,601	0	0	0	482,601.00
Total	1,206,503	0	0	0	1,206,503.00
ME					
Basic	0	157,200	0	0	157,200.00
Suppl.	0	104,800	0	0	104,800.00
Total	0	262,200	0	0	262,200.00
MS					
Basic	387,633	0	0	0	387,633.00
Suppl.	258,422	0	0	0	258,422.00
Total	646,055	0	0	0	646,055.00
MT					
Basic	217,959	0	0	0	217,959.00
Suppl.	145,306	145,306	0	0	290,612.00
Total	363,265	145,306	0	0	508,571.00

BASIC, SUPPLEMENTAL AND TOTAL 408 ALCOHOL SAFETY GRANT OBLIGATIONS

WA	1989	1990	1991	1992	FY 89-92 TOTALS
Basic	572,533	572,533	0	0	1,145,066.00
Suppl.	381,688	381,688	381,688	763,376	1,908,440.00
Total	954,221	954,221	381,688	763,376	3,053,506.00
IL					
Basic	0	1,394,474	1,394,474	2,788,948	5,577,896.00
Suppl.	0	929,649	929,649	929,649	2,788,947.00
Total	0	2,324,123	2,324,123	3,718,597	8,366,843.00
OR					
Basic	0	498,044	498,044	996,088	1,992,176.00
Suppl.	0	332,029	332,029	332,029	996,087.00
Total	0	830,073	830,073	1,328,117	2,988,263.00
WV					
Basic	0	0	261,815	523,630	785,445.00
Suppl.	0	0	174,543	174,543	349,086.00
Total	0	0	436,358	698,173	1,134,531.00
OK					
Basic	0	514,811	514,811	514,811	1,544,433.00
Suppl.	0	343,207	343,207	343,207	1,029,621.00
Total	0	858,018	858,018	858,018	2,574,054.00
KS					
Basic	0	492,517	492,517	492,517	1,477,551.00
Suppl.	0	328,345	0	328,345	656,690.00
Total	0	820,862	429,517	820,862	2,071,241.00
CO					
Basic	434,489	0	434,489	434,489	1,303,467.00
Suppl.	289,659	0	243,411	289,659	822,729.00
Total	724,148	0	677,900	724,148	2,126,196.00

BASIC, SUPPLEMENTAL AND TOTAL 408 ALCOHOL SAFETY GRANT OBLIGATIONS

NV	1989	1990	1991	1992	FY 89-92 TOTALS
Basic	0	164,093	0	0	164,093.00
Suppl.	0	109,395	109,395	0	218,790.00
Total	0	273,488	109,395	0	382,883.00
NH					
Basic	157,200	0	0	0	157,200.00
Suppl.	0	104,800	0	0	104,800.00
Total	157,200	104,800	0	0	262,000.00
NJ					
Basic	0	796,474	0	0	796,474.00
Suppl.	0	530,983	530,983	1,061,966	2,123,932.00
Total	0	1,327,457	530,983	1,061,966	2,920,406.00
ND					
Basic	0	0	232,358	0	232,358.00
Suppl.	0	154,906	154,906	0	309,812.00
Total	0	154,906	387,264	0	542,170.00
RI					
Basic	0	157,200	0	0	157,200.00
Suppl.	0	104,800	0	0	104,800.00
Total	0	262,000	0	0	262,000.00
UT					
Basic	230,349	0	230,349	0	460,698.00
Suppl.	153,566	0	153,566	0	307,132.00
Total	383,915	0	383,915	0	767,830.00
LA					
Basic	0	527,956	527,956	0	1,055,912.00
Suppl.	0	351,971	351,971	0	703,942.00
Total	0	879,927	879,927	0	1,759,854.00

BASIC, SUPPLEMENTAL AND TOTAL 408 ALCOHOL SAFETY GRANT OBLIGATIONS

CT	1989	1990	1991	1992	FY 89-92 TOTALS
Basic	0	346,454	346,454	346,454	1,039,362.00
Suppl.	0	0	115,485	115,485	230,970.00
Total	0	346,454	461,939	461,939	1,270,332.00
CA					
Basic	0	2,694,490	2,694,490	2,694,490	8,083,470.00
Suppl.	0	1,796,327	1,796,327	1,796,327	5,388,981.00
Total	0	4,490,817	4,490,817	4,490,817	13,472,451.00
WI					
Basic	0	0	678,041	1,356,082	2,034,123.00
Suppl.	0	0	452,028	452,028	904,056.00
Total	0	0	1,130,069	1,808,110	2,938,179.00
HI					
Basic	0	0	0	314,400	314,400.00
Suppl.	0	0	0	209,600	209,600.00
Total	0	0	0	524,000	524,000.00
MO					
Basic	0	0	0	719,162	719,162.00
Suppl.	0	0	0	479,441	479,441.00
Total	0	0	0	1,198,603	1,198,603.00
ID					
Basic	0	0	0	225,262	225,262.00
Suppl.	0	0	0	150,175	150,175.00
Total	0	0	0	375,437	375,437.00
YRLY TOTALS	4,697,307	14,997,865	15,338,399	19,954,424	54,987,992.00

SECTION 408: UNOBLIGATED CONTRACT AUTHORITY

Mr. CARR. Please also update the table on section 408 unobligated contract authority, as shown on page 964 of last year's hearing record, by providing data for 1983–1993.

[The information follows:]

SECTION 408 ALCOHOL SAFETY INCENTIVE GRANTS

[Dollars in thousands]

Fiscal year	Unused contract authority beginning of year	New contract authority	Reduction in contract authority	Less: obligations	Unused contract authority end of year
1983		−25,000			25,000
1984	−25,000	50,000		−5,160	69,840
1985	69,840	50,000		−6,287	113,553
1986	113,553		[1] −1,526	−12,027	100,000
1987	100,000		[2] −5,000	−915	94,085
1988	94,085			−11,468	82,617
1989	82,617			−4,388	78,229
1990	78,229			−15,762	62,467
1991	62,467			−15,338	47,129
1992	47,129			−19,954 [3] +818	27,993
1993	27,993			−11,000	16,993

[1] Authorization lapsing.

[2] Rescission.

[3] Reflects recoveries of prior year obligations.

Note: Table shows funding balances starting with the inception of the program in FY 1983. Obligation data based on the agency's budget execution reports. Two offsetting financial transactions are not shown (a lapse of contract authority at the end of FY 1987 and the subsequent reauthorization of the same amount in FY 1988).

SECTION 153: STATE ACTIONS

Mr. CARR. The General Accounting Office (GAO) has reported on the significant benefits of safety belt and helmet use for preventing deaths, severe injuries, and high social costs, and the importance of state laws in achieving higher utilization. What actions have states taken regarding helmet and safety belt laws since the enactment of Section 153 of ISTEA?

[The information follows:]

A significant amount of safety belt and motorcycle helmet legislative activity has taken place since the enactment of Section 153. In FY 1992, 17 safety belt or motorcycle helmet bills were introduced and, in FY 1993, 22 bills were introduced.

To date, five States have enacted safety belt or motorcycle helmet laws since the inception of the program:

Safety Belt Laws: Nebraska, North Dakota, West Virginia, and Vermont;

Motorcycle Helmet Laws: Maryland.

In addition, both Ohio and Connecticut amended their existing safety belt use laws to remove unacceptable air bag exemptions.

SECTION 153: BUDGET ASSUMPTIONS

Mr. CARR. For the record, please describe the assumptions on which your fiscal year 1994 request of $15 million for the Section 153 program was based. Include a breakdown of the amounts estimated for safety belts/motorcycle helmets as well as the numbers and names of states expected to qualify for each and the estimated amount of funds for which they would qualify.

[The information follows:]

EXPECTED FY 1994 SECTION 153 INCENTIVE GRANT PROGRAM

States	Status safety belt law	Status univ helmet law	Status year grant	Estimated grant 24.0% award
Arkansas [1]	X	X	3rd	−323,062
California [1]	X	X	2nd	2,286,966
Hawaii	X	P	1st	134,437
Illinois	X	P	1st	1,199,060
Kansas	X	P	1st	422,641
Kentucky [1]	P	X	1st	428,060
Maryland [1]	X	X	2nd	406,260
Missouri [1]	X	X	2nd	618,363
Nevada	X	X	3rd	142,789
New Jersey	X	X	3rd	684,398
New York	X	X	3rd	1,679,979
North Carolina [1]	X	X	3rd	657,208
Ohio [1]	X	P	1st	1,108,525
Oregon [1]	X	X	3rd	380,056
Pennsylvania [1]	X	X	3rd	1,204,011
Texas [1]	X	X	3rd	1,712,045
Vermont	X	X	1st	134,437
Virginia [1]	X	X	3rd	566,837
Washington [1]	X	X	3rd	487,731
District of Columbia	X	X	3rd	134,437
Puerto Rico	X	X	3rd	288,699
Total	20X 1P	17X 4P		$15,000,000

[1] Minimum Allocation State in FY 1993.

P: Predict State will enact qualifying law(s).

X: Existing qualifying law.

SECTION 153: STATE AWARD DATA

Mr. CARR. Please provide in the record a chart that identifies the states receiving first and second year awards under the Section 153 program in fiscal year 1993 and the amounts received for each type of award, and your estimates of first, second and third year awards anticipated in fiscal year 1994.

[The information follows:]

SECTION 153 INCENTIVE PROGRAM
FY 1992 - FY 1994

LIST OF STATES	FY 1992 AWARD @21% (actual)	FY 1993 AWARD @23% (estimate)	FY 1994 AWARD @24% (estimate)
Alabama*	$426,662	$465,177	0
Arkansas*	285,830	311,661	323,062
California*	2,023,369	0	2,286,966
Dist. of Col.	118,943	129,693	134,437
Florida*	0	0	0
Georgia*	569,883	621,384	0
Hawaii	0	0	134,437
Illinois	0	0	1,199,060
Kansas	0	0	422,641
Kentucky*	0	0	428,060
Louisiana*	403,004	0	0
Maryland*	0	391,923	406,260
Michigan*	871,716	950,496	0
Mississippi*	$296,230	0	0
Missouri*	0	596,541	618,363
Nebraska	0	277,478	0
Nevada	126,333	137,750	142,789
New Jersey	605,522	660,245	684,398
New York	1,486,363	1,620,691	1,679,979
North Carolina*	581,465	634,014	657,208
Ohio*	0	0	1,108,525
Oregon	336,255	366,643	380,056
Pennsylvania*	1,065,250	1,161,520	1,204,011
Tennessee*	100,000$_{4.5\%}$	511,583	0

LIST OF STATES	FY 1992 AWARD @21% (actual)	FY 1993 AWARD @23% (estimate)	FY 1994 AWARD @24% (estimate)
Texas*	1,514,734	1,651,625	1,712,045
Vermont	0	0	134,437
Virginia*	501,509	546,832	566,837
Washington*	431,521	470,519	487,731
West Virginia	0	215,716	0
Puerto Rico	255,424	278,510	288,699
TOTAL	$12,000,000	$12,000,000	$15,000,000

153CHT.3

NOTE

* Minimum Allocation State in FY93

SECTION 153: MINIMUM ALLOCATION

Mr. CARR. Please explain how the ISTEA requirements for minimum allocation states' participation in the Section 153 program differ from the requirements specified for other states, and what effect that has had on the participation of minimum allocation states.

[The information follows:]

ISTEA (Section 1013) requires that funds States receive for Section 153 Safety Belt and Motorcycle Helmet Incentive Grants be included in the State's minimum allocation calculation for FHWA funding. Therefore, if a minimum allocation State accepts Section 153 incentive funds in any year, it will receive a reduction in its next year's construction program allocation by the same amount.

During FY 1992, 13 of the 19 complying Section 153 States were minimum allocation States. Of those 13, 2 States (Florida and Missouri) refused to participate in the incentive program because of the minimum allocation provision. Another State (Tennessee) would only apply for a portion of its available grant.

During FY 1993, 16 of the 24 complying Section 153 States are minimum allocation States. Thus far, the agency has been officially notified that Florida will not participate in the program for the second consecutive year because of the minimum allocation provision. Since the grant awarding period is still open, the agency can not accurately determine the effects of minimum allocation for FY 1993.

ALCOHOL PROGRAM FUNDING JUSTIFICATION

Mr. CARR. You are requesting $6.475 million for the Alcohol Program under Highway Safety. This is a significant increase of $2.256 million, or 53 percent. What do you plan to accomplish with the requested increase? For the record, please break out the specific intended uses of the requested increase.

[The information follows:]

The requested increase will be used as follows:

Youth: increase of $600,000 to fund a state provisional licensing system demonstration and to develop public information messages directed at high-risk youth.

Public information and education: increase of $481,000 to develop communications strategies, programs, and materials to deliver traffic safety messages to diverse populations through both the traffic safety and public health communities.

Courts: increase of $450,000 to develop, implement, and institutionalize training for judges and to evaluate the results of prosecutorial training on traffic offense prosecution and conviction.

Legislation and enforcement: increase of $300,000 to study the use of new technology (such as magnetic stripe licenses and digital imaging of driver photos) to discourage driving with a suspended license and to develop a training program for police in the effective use of video cameras.

Data: increase of $225,000 to study alcohol-involved fatal crashes, in collaboration with the National Center for Health Statistics, and alcohol-involved serious injuries, through a National Accident Sampling System special study.

Workshops: increase of $200,000 to implement workshops developed in 1993 to train police in effective techniques for enforcing youth DWI laws; revitalization and expansion of SFST training for police; expansion of efforts to document and support innovative alcohol enforcement and education programs to achieve new alcohol goals set by the Administration.

PROMOTION OF AGE 21 ENFORCEMENT

Mr. CARR. What has the agency done to encourage stronger enforcement of the 21 drinking age laws and to close loopholes in the laws?

[The information follows:]

Several NHTSA activities assist and encourage stronger enforcement of minimum drinking age 21 laws.

The Agency funded and helped plan two youth alcohol conferences sponsored by the National Association of Governors Highway Safety Representatives (NAGHSR) and the National Commission Against Drunk Driving to encourage state and community action. The agency is awarding a grant to NAGHSR and the National Association of State Alcohol and Drug Abuse Directors (NASADAD) to assess state activity in enforcing underage drinking laws and to provide guidance in initiating model programs.

The Agency has funded the Washington Regional Alcohol Program (WRAP) for the past two years to develop a model regional strategic plan, involving multiple jurisdictions, to address compliance with the age 21 drinking laws.

To complement minimum drinking age 21 laws, the Agency encourages states to adopt "zero tolerance" laws that make it illegal for persons under the age of 21 to drive with any measurable alcohol. The Agency developed and distributed a variety of information supporting zero tolerance laws. In 1993, the Agency will conduct state workshops for middle management police officers to increase enforcement of underage impaired driving and drinking laws.

NHTSA'S CONTRIBUTION TO TWO STUDIES

Mr. Carr. The justifications indicate that NHTSA will participate in a study of driver fatalities conducted by the National Center for Health Statistics, and help fund a special study of alcohol-involved drivers in crashes through the NASS. What is NHTSA contributing to the costs of these studies, and why is it important that NHTSA participate?

[The information follows:]

NHTSA will contribute $300,000 (FY 1994) to the 1993 Mortality Follow-Back Survey being conducted by the National Center for Health Statistics. Survey participants will be significant others of the fatally-injured drivers. Important data describing the drivers' use of alcohol and drugs, risk taking tendencies, driving behavior, and demographic characteristics will be obtained. These data will be analyzed to identify target populations of at-risk drivers. Knowledge of the target populations will permit the Agency to apply its program resources more cost effectively.

NHTSA will contribute $100,000 (FY 1994) for a study to determine the proportion of alcohol-impaired drivers in non-fatal injury crashes. The study will use the National Accident Sampling System (NASS). Current estimates of alcohol involvement in non-fatal crashes rely heavily on police accident reports, which are believed to underreport alcohol involvement. Independent NASS investigators will use hospital data and research interviewing techniques to obtain a more reliable measure of this component of the alcohol crash problem.

NATIONAL TRAFFIC LAW CENTER

Mr. Carr. NHTSA established in 1992 the National Traffic Law Center. What is the purpose of the center and how will you evaluate whether it is a success?

[The information follows:]

The purpose of the National Traffic Law Center (NTLC) is to promote the development of a structured, national effort to: (1) establish a national clearinghouse for legal information and research relating to traffic safety offenses; (2) support and develop training to enhance the skills of prosecutors handling impaired driving and other traffic safety cases; (3) develop mechanisms for disseminating information concerning the effective prosecution and adjudication of impaired driving and other traffic safety cases including newsletters, journal articles and other publications; and (4) provide support to programs undertaken by the National Highway Traffic Safety Administration to enhance the prosecution and adjudication of traffic safety offenses by State and local officials.

The NTLC's ultimate measures of success are more aggressive prosecution and adjudication of traffic safety offenses, fewer plea bargains, and higher conviction rates. More directly, the NTLC will be successful if its services are widely respected and used by prosecutors and judges. NTLC's clearinghouse must assemble useful information and package it appropriately for prosecutors and judges. NTLC must develop widely read and useful periodicals, articles, and newsletters. NTLC's training program must develop courses that meet demonstrated needs and that are well-evaluated by judges and prosecutors. NTLC also must institutionalize these courses in the states.

NATIONAL TRAFFIC LAW CENTER ALLOCATION

Mr. CARR. What is allocated for the National Traffic Law Center in fiscal year 1993 and what is budgeted in fiscal year 1994?

[The information follows:]

The center is budgeted for five years, at $300,000 per year, beginning in August 1992. The budget for fiscal years 1993 and 1994 is $300,000 in each fiscal year.

TEAM FUNDING PROFILE

Mr. CARR. Please provide for the record a funding profile for your TEAM activities for fiscal years 1990–1994.

[The information follows:]

Funding for TEAM activities for fiscal years 1990–1994:

[Thousands of dollars]

	National awareness, administration	Facility alcohol management	Community programs	Total
FY 1990	448	230	287	965
FY 1991	500	120	200	820
FY 1992	670	50	0	720
FY 1993	500	0	0	500
FY 1994	470	0	0	470

TEAM: EFFECTIVENESS AND FUTURE PLANS

Mr. CARR. How effective has the TEAM program been at reducing alcohol-impaired driving, and what are your future plans for TEAM?

[The information follows:]

TEAM has been effective in reaching millions of people through public information campaigns and facility alcohol management programs. TEAM public awareness campaigns have produced 25 television public service announcements that have received more than $18 million in prime television time since 1986. Facility alcohol management programs have been implemented in more than 110 facilities and more than 30,000 employees have received TEAM training. Millions of sports fans have been impacted by these TEAM programs on television and at sports stadiums.

An independent study of TEAM facility alcohol management programs in seven Major League Baseball stadiums found that TEAM had helped reduce alcohol problems. Employees had been trained in their stadium's alcohol policies and were able to deal effectively with intoxicated patrons. Fans were aware of stadium alcohol policies and many had reduced their alcohol consumption at the stadium.

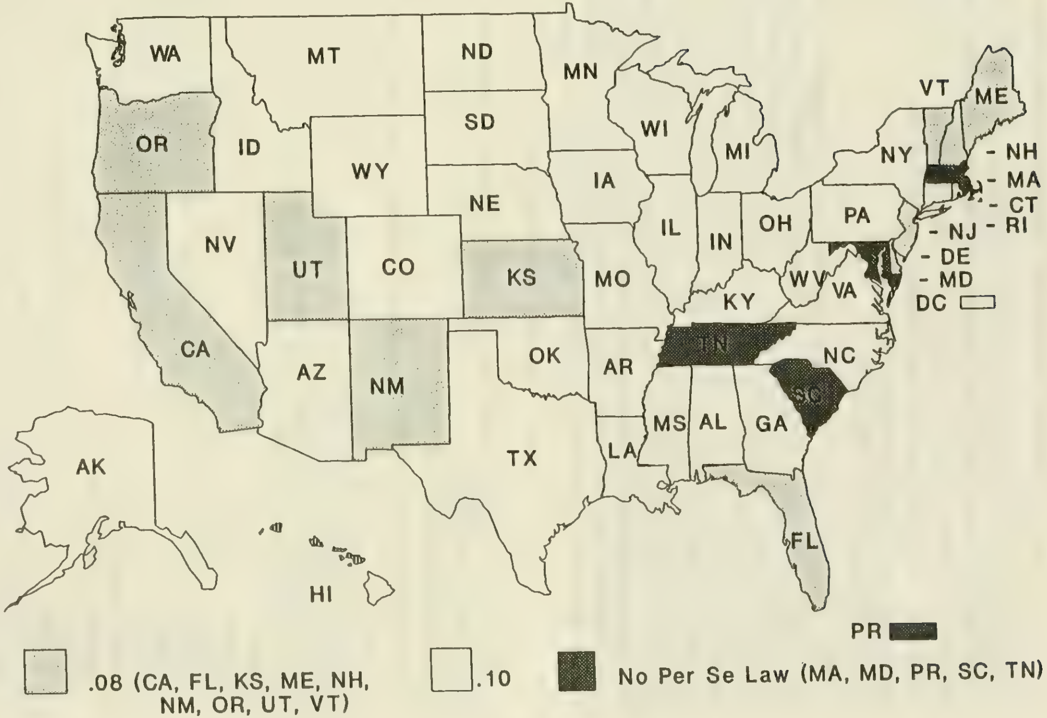
TEAM plans to continue to work with professionals and amateur sports leagues and other TEAM coalition members to bring public service messages to sports fans and the general public through radio, television, and print media. TEAM also will continue to implement facility alcohol management policies and training in the stadiums and arenas where sports and other events take place.

BAC: PER SE LAWS

Mr. CARR. For the record, please provide a U.S. map showing states with BAC per se laws, including a breakdown between .10 and .08 BAC states.

[The information follows:]

STATES WITH BAC PER SE LAWS



BAC: SCIENTIFIC BASIS FOR .08 RECOMMENDATION

Mr. CARR. Last year, NHTSA provided a report to Congress, "Driving Under the Influence", that recommends that states should be encouraged to enact 0.08 as the BAC level at and above which it is a per se criminal offense to drive. What is the scientific basis for your recommendations?

[The information follows:]

There have been many laboratory, simulator, and closed course research studies that have examined the effects of BAC levels at .08 and lower on driving. Laboratory studies have shown that BAC levels of .08 lead to reduced performance in reaction time, tracking, divided attention, and psychomotor performance. In addition, simulator and closed course studies have demonstrated performance decrements at .08 on such driving-related skills as car following, steering, lane position, speed maintenance, braking response time, and driver decision making. Crash investigation research provides another source of scientific data regarding the hazard potential of .08. These studies typically determine the degree to which specific BAC levels are overrepresented in crash drivers (and therefore likely to have contributed to the crash). Such studies have shown that the estimated relative risk of being involved in a crash increases significantly beyond the .08 BAC level.

BAC: RECENT STATE ACTIVITY

Mr. CARR. What states have taken recent actions to lower their BAC limit to 0.08?

[The information follows:]

The following states have taken recent action to lower their BAC limit to 0.08.

Passed:
Florida—Law effective 1/1/94.
Kansas—Law effective 7/1/93.
New Hampshire—Law effective 1/1/94.
New Mexico—Law effective 1/1/94.

Failed:
Hawaii
Idaho
Illinois
Indiana
Iowa
Rhode Island

Pending (as of 5/1/93):
Alaska
Alabama
Colorado
Delaware
District of Columbia
Louisiana
Michigan
Minnesota
New York
North Dakota
North Carolina
Ohio
Pennsylvania
South Dakota
Tennessee
Texas
Virginia
Washington
West Virginia
Wyoming

BAC: SAFETY IMPACT OF .08

Mr. **Carr.** What is the estimated safety impact that would result if states with a 0.10 per se BAC limit adopted the lower 0.08 BAC limit?

[The information follows:]

Little data are available regarding the impact of the .08 BAC limit. An agency attempt to examine the California .08 law was complicated by the fact that California implemented an Administrative License Revocation (ALR) law about the same time that .08 went into effect. A substantial reduction in alcohol-related fatalities was found, however, the degree to which .08 contributed to this reduction is difficult to determine. The agency does plan on examining this issue further in the coming year by studying the historical experience of fatal crashes in all States that currently have an .08 law.

ALCOHOL-IMPAIRED DRIVING ACTIVITIES FUNDING

Mr. **Carr.** Including all sources (Section 402, section 408, section 410, highway safety, research, etc.), how much funding is requested for alcohol-impaired driving activities in fiscal year 1994, and how does that compare to fiscal years 1993 and 1992?

[The information follows:]

[Dollars in thousands]

	1992	1993	1994 Request
Section 403:			
Highway safety	4,540	4,219	6,475
Research	1,987	1,862	1,762
Section 402	31,811	[1] 31,050	[1] 33,210
Section 408	19,954	11,000	10,500
Section 410	[2] 8,153	[3] 23,033	25,000
Total	66,445	71,164	76,947

[1] Estimated distribution of obligations based on current information; the actual distribution of Section 402 obligations to alcohol-impaired and other activities will be determined by the States.

[2] Obligations funded from Federal-Aid Highways account in FHWA.

[3] Assumes $16.847 million of obligations funded from Federal-Aid Highways account in FHWA, and $6.186 million of obligations funded from carryover of "old 410" appropriations.

ALCOHOL-RELATED FATALITY RATES

Mr. **Carr.** For the record, please update the chart showing alcohol-related fatality rates per 100 million vehicle miles traveled, as shown on page 796 of last year's hearing record.

[The information follows:]

ALCOHOL-RELATED FATALITY RATES PER 100 MILLION VEHICLE MILES OF TRAVEL

Year	Rate per VMT
1986	1.3
1987	1.2
1988	1.2
1989	1.1
1990	1.0
1991	1.0
1992 [1]	[1] 0.8

[1] Estimate.

PEDESTRIAN, BICYCLE, AND MOTORCYCLE FUNDING

Mr. CARR. Now that NHTSA has made pedestrian, bicycle and motorcycle safety Section 402 funding priorities for the states, has the agency devoted more of its own resources to those issues?

[The information follows:]

Motorcycle safety was added to the list of national priority program areas in April 1988. Since that time the 403 budget for this program areas has increased from $60,000 (FY 1988) to $358,000 (FY 1993).

The agency has increased activity in this safety area to include national campaigns to increase motorcycle helmet usage and to reduce the numbers of improperly licensed motorcyclists killed in traffic crashes. It plans to begin a new effort to reduce alcohol involvement in motorcycle crashes in FY 1994.

Pedestrian and bicycle safety were added to the national priority program list in the beginning of FY 1992. The program budget was level funded in FY 1993 and most likely will be again in FY 1994. Program activities, however, have been expanded by using staff from other program areas on a part-time basis. In addition, these activities have been combined, where possible, with activities in other program areas (e.g. alcohol, occupant protection, etc.). This approach has made more efficient use of existing resources. Finally, the joint NHTSA-FHWA pedestrian safety program has allowed NHTSA to further extend the scope of its pedestrian safety program.

PEDESTRIAN COUNTERMEASURES: SPECIAL POPULATIONS

Mr. CARR. What countermeasures have been successfully developed to improve the safety of senior citizen pedestrians, and to improve pedestrian safety for elementary students who ride on school buses?

[The information follows:]

Older pedestrians (65+) comprise 12 percent of the population, but account for 22 percent of pedestrian fatalities. Declining physical abilities contribute to this situation, but the major factor is the decreased resilience of older persons to severe trauma. Walking Through The Years, a video program for older citizens, is the most recent countermeasure component development for this age group. Jointly developed by NHTSA and FHWA, this video is based on research that identified specific crash problems facing older pedestrians and developed safety information for countering such problems. This information has also been adapted by the American Automobile Association (AAA) into their program for older adults, which includes a slide program, press releases, radio public service announcements, a brochure, envelope stuffers, an editorial, and a technical article for use in club magazines.

In the school bus safety area, work is underway on the development of a pedestrian safety training program for elementary school bus riders. The purpose of this project is to develop and test a set of materials designed to improve school bus-related pedestrian crashes. The work is being done in the New York State school system. The intent is to provide training materials for students, their parents, and school bus drivers. These materials are aimed at improving the safety of students from the time they leave for school until their return.

PEDESTRIAN COUNTERMEASURES: FHWA COORDINATION

Mr. CARR. What activities are planned with FHWA to promote these countermeasures?

[The information follows:]

FHWA and NHTSA share the development and promotion of the Walk Alert program, a comprehensive program guide for designing local programs to reduce pedestrian crashes. Both of the countermeasures (Walking Through The Years, and the School Bus Pedestrian Safety Training Program) will be offered to states and localities through marketing of the Walk Alert Program. In addition, both FHWA and NHTSA have distributed these materials to the Pedestrian and Bicyclist Coordinators in all fifty states and to their respective regional offices.

NHTSA and FHWA have also combined efforts to address the other pedestrian and bicycle safety issues. The two agencies funded 12 demonstration grants that served as seed money to local pedestrian safety programs addressing specific age groups, behaviors and problem locations. Steering committees and support groups were formed to oversee the implementation of target group education, mass media public information programs, enforcement actions, and environmental improvements. Most of these programs highlighted older adult pedestrian safety issues.

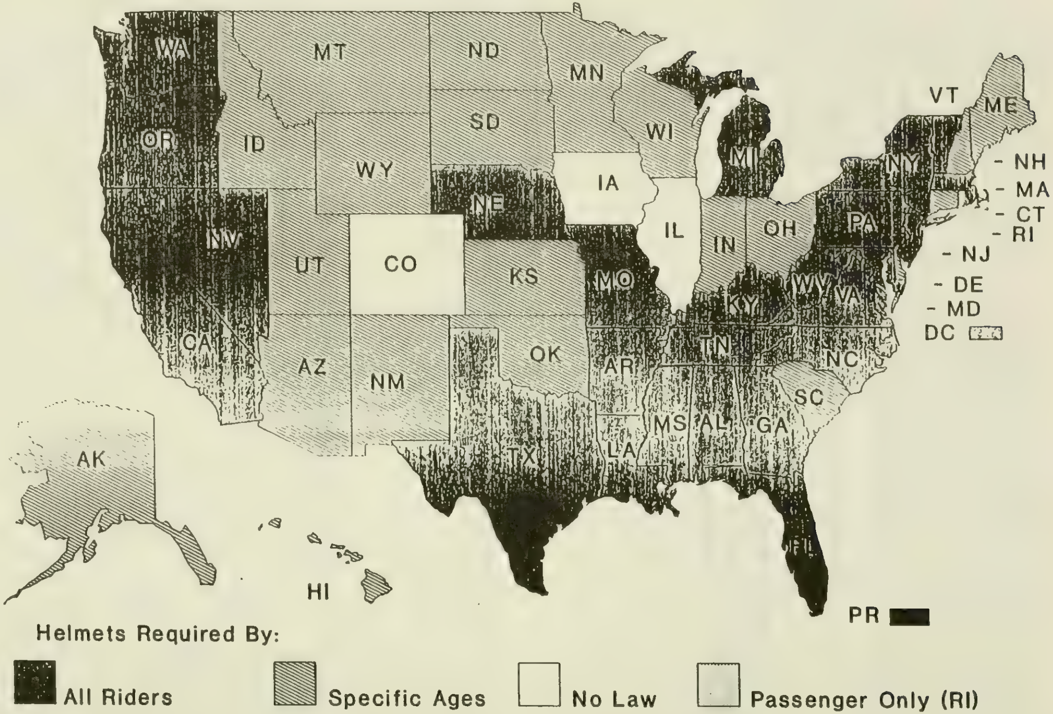
A marketing plan is currently being developed that will enable both agencies to increase the awareness and availability of successful countermeasures and to advise community traffic safety programs (CTSPs) on ways to implement these programs.

STATES WITH/WITHOUT MOTORCYCLE HELMET LAWS

Mr. Carr. For the record, please update the U.S. map showing states with and without motorcycle helmet laws, as shown on page 857 of last year's hearing record.

[The information follows:]

MOTORCYCLE HELMET USE LAWS



STATE-BY-STATE MOTORCYCLE FATALITIES

Mr. Carr. Please update the state-by-state data on motorcycle occupant fatalities as shown on page 859 of last year's hearing record, by providing data for 1992.

[The information follows:]

The attached table updates the chart shown on page 859 of last year's hearing record. Last year's chart covered calendar year 1990; the current update covers 1991. State-level data for 1992 are not yet available.

1991 MOTORCYCLE OCCUPANT FATALITIES BY REGISTERED MOTORCYCLES

STATE	MOTORCYCLE OCCUPANT FATALITIES	NUMBER OF REGISTERED MOTORCYCLES	FATALITY RATE PER 10,000 REGISTERED MOTORCYCLES
DIST OF COLUMBIA	6	2,057	29.2
ARKANSAS	23	14,000	16.4
SOUTH CAROLINA	44	29,406	15.0
WEST VIRGINIA	24	17,642	13.6
NORTH CAROLINA	71	58,406	12.2
NEW MEXICO	38	32,083	11.8
KENTUCKY	34	34,000	10.0
ALASKA	11	11,016	10.0
UTAH	23	24,473	9.4
ALABAMA	38	40,645	9.3
NEVADA	18	19,833	9.1
FLORIDA	177	196,031	9.0
MARYLAND	49	54,906	8.9
LOUISIANA	28	32,332	8.7
HAWAII	18	20,857	8.6
INDIANA	82	96,812	8.5
KANSAS	49	59,224	8.3
MAINE	30	37,141	8.1
CALIFORNIA	515	651,370	7.9
MASSACHUSETTS	42	53,649	7.8
GEORGIA	60	77,524	7.7
DELAWARE	7	9,232	7.6
ARIZONA	60	80,517	7.5
WYOMING	12	16,812	7.1
TEXAS	131	185,167	7.1
OHIO	164	235,975	6.9
RHODE ISLAND	16	23,125	6.9
VIRGINIA	42	61,327	6.8
NEBRASKA	14	20,667	6.8
MISSOURI	41	60,783	6.7
TENNESSEE	50	74,290	6.7
PENNSYLVANIA	107	167,326	6.4
OKLAHOMA	37	58,990	6.3
NEW YORK	124	197,851	6.3
ILLINOIS	111	184,380	6.0
MISSISSIPPI	15	26,198	5.7
CONNECTICUT	29	50,882	5.7
OREGON	35	62,369	5.6
MICHIGAN	85	166,125	5.1
COLORADO	45	88,868	5.1
NEW JERSEY	41	86,096	4.8
MONTANA	10	21,185	4.7
NORTH DAKOTA	9	19,181	4.7
NEW HAMPSHIRE	14	36,692	3.8
MINNESOTA	42	112,367	3.7
SOUTH DAKOTA	9	24,152	3.7
WASHINGTON	43	115,613	3.7
WISCONSIN	77	210,378	3.7
IDAHO	12	33,198	3.6
VERMONT	6	18,433	3.3
IOWA	40	165,451	2.4
U.S. TOTAL	2,808	4,177,037	6.7

SOURCE:
FATALITIES: FATAL ACCIDENT REPORTING SYSTEM
REGISTERED VEHICLES: FEDERAL HIGHWAY ADMINISTRATION

RECENT PROGRESS ON BICYCLE HELMETS

Mr. CARR. As you know, bicycle crashes cause over 600 fatal and 100,000 serious head injuries each year. What progress have states made in recent years in improving the use of bicycle helmets?

[The information follows:]

Currently, six states have bicycle helmet laws, all of which cover only younger bicyclists. when Georgia's law becomes effective on July 1, 1993, it will cover riders under the age of 16. New Jersey's law covers riders under age 15. Three states cover riders under age six and one state covers riders under the age of one year. In addition, five cities have universal laws for riders of all ages and five counties and/or cities have laws covering riders under 16 years.

Johns Hopkins University recently evaluated the impact of a Howard County, Maryland law, which was combined with a public information program. This study showed a dramatic increase in helmet usage for the target age group. The study showed that increased usage followed an aggressive PI&E and enforcement campaign.

SECTION 402 GRANTS FOR BICYCLE AND PEDESTRIAN SAFETY

Mr. CARR. What share of fiscal year 1993 Section 402 grants to the states are devoted to bicycle and pedestrian safety?

[The information follows:]

It is anticipated that approximately 2 percent of the fiscal year 1993 NHTSA Section 402 funds will be obligated to bicycle and pedestrian safety activities.

BICYCLE FATALITY DATA

Mr. CARR. For the record, please update the data on bicyclist fatalities as shown on page 861 of last year's hearing record, by providing data for 1992.

[The information follows:]

The attached table updates the chart shown on page 861 of last year's hearing record. Last year's chart covered calendar year 1990; the current update covers 1991. State-level data for 1992 are not yet available.

PEDALCYCLIST FATALITIES BY STATE
1991

STATE	PEDALCYCLIST FATALITIES	RESIDENT POPULATION (THOUSANDS)	FATALITY RATE PER 100,000 POPULATION
ALABAMA	13	4,089	0.32
ALASKA	3	570	0.53
ARIZONA	30	3,750	0.80
ARKANSAS	5	2,372	0.21
CALIFORNIA	112	30,380	0.37
COLORADO	14	3,377	0.41
CONNECTICUT	5	3,291	0.15
DELAWARE	3	680	0.44
DIST OF COLUMBIA	1	598	0.17
FLORIDA	118	13,277	0.89
GEORGIA	20	6,623	0.30
HAWAII	2	1,135	0.18
IDAHO	4	1,039	0.38
ILLINOIS	27	11,543	0.23
INDIANA	19	5,610	0.34
IOWA	9	2,795	0.32
KANSAS	7	2,495	0.28
KENTUCKY	9	3,713	0.24
LOUISIANA	23	4,252	0.54
MAINE	1	1,235	0.08
MARYLAND	8	4,860	0.16
MASSACHUSETTS	13	5,996	0.22
MICHIGAN	38	9,368	0.41
MINNESOTA	8	4,432	0.18
MISSISSIPPI	7	2,592	0.27
MISSOURI	5	5,158	0.10
MONTANA	2	808	0.25
NEBRASKA	4	1,593	0.25
NEVADA	3	1,284	0.23
NEW HAMPSHIRE	0	1,105	0.00
NEW JERSEY	21	7,760	0.27
NEW MEXICO	4	1,548	0.26
NEW YORK	69	18,058	0.38
NORTH CAROLINA	36	6,737	0.53
NORTH DAKOTA	1	635	0.16
OHIO	30	10,939	0.27
OKLAHOMA	4	3,175	0.13
OREGON	9	2,922	0.31
PENNSYLVANIA	18	11,961	0.15
RHODE ISLAND	4	1,004	0.40
SOUTH CAROLINA	21	3,560	0.59
SOUTH DAKOTA	4	703	0.57
TENNESSEE	8	4,953	0.16
TEXAS	53	17,349	0.31
UTAH	4	1,770	0.23
VERMONT	2	567	0.35
VIRGINIA	21	6,286	0.33
WASHINGTON	5	5,018	0.10
WEST VIRGINIA	1	1,801	0.06
WISCONSIN	12	4,955	0.24
WYOMING	1	460	0.22
TOTAL	841	252,177	0.33

SOURCES: FATALITIES - FATAL ACCIDENT REPORTING SYSTEM (FARS)
POPULATION - BUREAU OF THE CENSUS

NOTE: THE SUM OF INDIVIDUAL STATE RESIDENT POPULATION MAY NOT EQUAL NATIONAL TOTALS BECAUSE NUMBERS HAVE BEEN ROUNDED.

PASSIVE BELT USE RATES AND PROBLEMS

Mr. **Carr**. What have the use rates been for the various types of passive belt systems, including the separate lap belts of some systems? What problems have been reported to NHTSA regarding passive belt systems?

[The information follows:]

The last 19-Cities Survey (completed in 1991) provided estimates of driver shoulder belt usage rates for the various systems. They are shown in the table below:

	Percent of drivers observed wearing	
	Shoulder belt	Wearing lap belt
Motorized 2-point belts (without disconnect)	97	(1)
Motorized 2-point belts (with disconnect)	91	(1)
Non-motorized 3-point belts (with disconnect)	64	(1)
Non-motorized 2-point belts	74	(1)
A 1990 survey performed in North Carolina by the University of North Carolina's Highway Safety Research Center found:		
Motorized 2-point belts	94	29
Non-motorized 3-point belts	77	75
A 1991–92 survey done in North Carolina of 5,077 drivers of cars with automatic belts found:		
Motorized 2-point belts	92	36
Non-motorized 2-point belts	81	31
Non-motorized 3-point belts	74	74

[1] Lap belt use not observed.

Questions have been raised about the performance of automatic belts in preventing occupant ejection, an often fatal outcome. Higher usage of automatic belts should reduce the incidence of ejection, but this might be offset by other factors (e.g., failure to wear the manual lap belt or door-mounted belts coming loose in a crash). So far, the automatics appear to be doing quite well in comparison to manual belt systems. In the agency's 1992 Interim Report of An Evaluation of the Effectiveness of Occupant Protection, it was found that ejection rates were significantly lower in cars with motorized 2-point belts without disconnect, and in cars with non-motorized 3-points with disconnect.

NHTSA'S EFFORTS TO INCREASE SEAT BELT USE

Mr. **Carr**. NHTSA has initiated a rigorous program to increase seat belt use, but what are you doing to make the public more aware of the misuse of manual lap belts with automatic upper torso belts, and the misuse of safety belts in cars equipped with air bags?

[The information follows:]

NHTSA produces a variety of print and electronic media materials explaining how different automatic systems work, and what consumers need to do to ensure maximum protection, e.g., buckling the manual lap belt, and buckling the manual belts provided with air bag systems. Over the past 4 years, NHTSA has distributed over 1 million copies of such publications, many of which are designed to be easily copied by States and local communities desiring to reach even wider audiences.

NHTSA, in cooperation with the Advertising Council, supports general awareness media campaigns featuring the crash test dummies, Vince and Larry. In 1991, and again in 1992, a print advertisement, a television public service announcement, and a radio public service announcement emphasizing the need to buckle up " . . . even with an air bag," were distributed to 1,100 TV stations, 7,700 radio stations, 11,380 newspapers and 880 national magazines.

A second media campaign, produced as part of a NHTSA demonstration project in Minnesota, carried educational messages about air bags and warned audiences against detaching their automatic belts. NHTSA distributed over 2,000 broadcast quality copies of the three TV public service announcements that were produced as part of this campaign.

A third media campaign was conducted as part of a NHTSA demonstration project in North Carolina. Overall manual belt use with automatic systems went from 58 to 76 percent in apparent response to an intensive educational campaign conducted in the Wilmington area. A less intense statewide educational effort appeared to produce a more modest increase, from 60 to 63 percent. NHTSA is considering national distribution of several of the educational pieces from this project.

SEAT BELT USE: SPECIAL POPULATIONS

Mr. Carr. What are you doing to reach special populations such as the youth, elderly, minority and low-income and rural populations on issues regarding safety belt use? Do you have ongoing programs to reach these groups?

[The information follows:]

Agency efforts to address special target populations include expanded research efforts to better identify the variety of social and cultural environments in which these groups exist and to identify program strategies to meet their unique needs. Emphasis will be placed on developing and implementing projects that address cultural and other barriers, provide culturally relevant materials, include more effective delivery mechanisms, and pilot refined program strategies.

Programs will be implemented through specific national organizations that have prove effective in developing programs to reach high-risk groups at the community level. For instance, efforts are underway with the national Coalition of Hispanic Health and Human Services Organizations (COSSMHO) and with the Indian Health Services to better identify the highway safety problems facing these populations and to implement appropriate programs. Additionally, the American Driver and Traffic Safety Education Association is implementing a program to reach 70% safety belt use at 1,000 high schools and Little League Baseball is implementing a program to educate young players and adult volunteers on the importance of buckling up, wearing bicycle helmets, and safe walking practices.

The agency is also collaborating with other organizations to reach these target groups through their own program efforts. Other Federal agencies and national groups include Maternal and Child Health, the Office of Minority Health, the Extension Service of the Department of Agriculture, the American Association for Retired Persons, the National Rural Health Association, and Students Against Drinking Drunk, among others.

SEAT BELT USE: HEAVY TRUCKS

Mr. Carr. The NTSB has estimated that about 26 percent of heavy truck drivers killed each year could have survived had they been wearing seat belts. What are you doing to address nonuse of seatbelts in this population?

[The information follows:]

The agency continues to work with the Federal Highway Administration and public and private groups on programs to promote the use of safety belts by commercial drivers. The Department is supporting a belt use campaign operated by the Commercial Vehicle Safety Alliance (CVSA), an association of State and Provincial officials that administers and enforces motor carrier safety laws in the United States, Canada and Mexico. Beginning in 1992, the CVSA included safety belt information provided by NHTSA in its yearly Roadcheck project. During *Roadcheck '93,* officers will again distribute informational and promotional materials. They will continue this activity at roadside inspection sites throughout the year.

The Department also supports the CVSA, the American Automobile Manufacturers Association, and other industry organizations, in the production of training and promotional materials. These materials are used in company training programs to help the trucking industry promote the benefits of using safety belts under all conditions.

SEAT BELT USE: HEAVY TRUCK INSURANCE PREMIUM INCENTIVES

Mr. CARR. The NTSB has asked several insurance trade groups to promote use of seat belts in heavy trucks by encouraging member insurance companies to offer premium incentives to truck drivers who use seat belts.

Do you believe that this is a good approach for reaching truck drivers who have low usage rates? What other approaches are you working on?

[The information follows:]

The agency supports the use of insurance incentives for drivers of all vehicles, including truck drivers, as a means of increasing safety belt use. Although belt use for commercial drivers has been mandatory for the past twenty years (49 C.F.R. Section 392.16), surveys indicate that a large number of truck drivers still do not use safety belts. This is especially true for smaller companies (about 290,000 with ten or fewer drivers). A number of motor carriers and businesses with large fleets report use rates in the 70–90 percent range. These high rates are attributed to a variety of program efforts, including the enforcement of belt use laws, effective company policies, promotional and educational programs, company sanctions for the nonuse of safety belts, and special incentives.

In order to reach large, as well as smaller, trucking organizations, the agency is distributing a resource manual titled Safety Belt Use in Large Trucks: A Guide to Encourage Safety Belt Use Among Drivers of Heavy Trucks (April 1993). The guide describes how to develop safety belt use programs, the importance of belt use policies, and the use of incentives. It also provides educational materials. Information is included on the benefits of belt use in large trucks, how safety belts protect truck occupants, information on proper fit, and the consequences drivers face when they drive unbelted. The materials also emphasize the importance of using three-point "lap/shoulder belts".

LIGHT TRUCK FATALITIES

Mr. CARR. I noticed from the data submitted for the record last year that the fatality rate per 100 million registered vehicles in 1990 was highest for small pickup trucks: 1.4 as compared with an average of 1.0 fatalities per 100 million registered vehicles for all types of cars and light trucks. Are these fatalities due to people riding unrestrained in the back of the trucks?

[The information follows:]

In 1991, there were 2,519 total occupant fatalities in small pickup trucks, of which 121 (about 5 percent) involved occupants in the pickup truck bed. The fatality rate for these vehicles was 226.6 per 100 million registered vehicles, or a relative fatality rate of 1.2 compared with all passenger vehicles (182.0 per 100 million registered vehicles). If none of these 121 fatalities had occurred, the fatality rate per 1,000 registered vehicles would have been 5 percent lower, or 214.9 per 100 million registered vehicle years, which equates to a relative fatality rate of 1.2; the difference is lost in the rounding. Therefore, fatalities in the pickup truck bed is a relatively small problem.

LIGHT TRUCK EDUCATIONAL CAMPAIGNS

Mr. CARR. What types of educational campaigns are underway to address this problem?

[The information follows:]

The agency is currently working with the National Parent Teachers Association to draft a resolution that will encourage the education of parents, teachers and the public concerning the dangers posed to children riding unrestrained in the cargo beds of pickup trucks. That resolution will also seek state legislative actions, where appropriate, and will support the enforcement of such laws. In a complimentary effort, the agency participated with the American Academy of Pediatrics in the development of a legislative strategies kit for pediatricians. Among the upgrades discussed in the kit is the specific prohibition of children riding in the back of pick-up trucks.

NHTSA's Region VI office, working with its States, has developed a new program, "Pick Up Your Seat Belt," to encourage belt use among pick-up truck occupants and discourage riding unrestrained in truck beds. Six radio public service announcements were developed in 1992 and used widely in Oklahoma, Texas and New Mexico. A new press kit for use by State Highway Safety Offices is under development in 1993. These materials are available to all the Regions, who encourage the States to look at this issue as part of the Section 402 problem analysis process.

LIGHT TRUCKS: RESULTS OF AMERICAN ACADEMY OF PEDIATRICS STUDY

Mr. Carr. What were the results of the state-by-state analyses conducted last year by the American Academy of Pediatrics of child passenger safety laws and the coverage of children in the back of pickup trucks?

[The information follows:]

A number of deficiencies related to child passenger safety laws were identified. The most common problems include: differences in the age and size range of children covered; allowance for young children to ride unrestrained if all seating positions with belts are occupied; and waivers for tending to a child's needs or a medical necessity. Other deficiencies which could hinder enforcement include: laws limited to in-state residents and certain types of vehicles; and laws that apply only to parents or guardians. Finally, problems with safety belt laws, which are the only laws that cover older children in most states, include provisions which require belt use only in front seat positions and those which allow enforcement only if the driver is stopped for another violation.

Pickup trucks present a unique problem in that most laws do not apply to vehicles without belts or mention cargo areas. The risk may be higher for older children as teenagers are more likely to ride in the cargo bed, but younger children may also be placed at risk if this is the only family vehicle.

STATES WITH BACK OF PICKUP TRUCK RESTRICTIONS

Mr. Carr. Please update the listing of those states with restrictions on riding in the back of pickup trucks, including the occupant age to which the law applies, as shown on page 787 of last year's hearing record.

[The information follows:]

The following States plus D.C. and P.R. have enacted laws preventing people from riding in the back of trucks:

California.—Prohibits the transportation of any person in the back of a motor truck with a gross weight of 6,000 pounds or less, commonly known as a pickup truck.

District of Columbia.—Prohibits riding in the back of pickup trucks when the driver's view is obstructed.

Georgia.—Makes it unlawful for any person under the age of 18 to ride in the bed of a uncovered pickup truck.

Hawaii.—Makes it unlawful for persons to ride in the bed of a pickup truck.

Louisiana.—Makes it unlawful for children under six to ride in the bed of an uncovered pickup truck.

Maryland.—Expanded the applicability of mandatory seat belt use to pickup trucks, when there are seating positions with safety belts available in the passenger compartment.

Massachusetts.—Prohibits children under 12 from riding in the bed of a pickup truck.

Ohio.—Makes it unlawful for children under 16 to ride in the back of a pickup truck.

Puerto Rico.—Unlawful for persons to ride outside the passenger cabin of a vehicle.

Rhode Island.—Requires children to be restrained while riding in open trucks.

Texas.—Makes it unlawful for children 12 years and under to ride in the bed of a pickup truck.

BACK OF PICKUP TRUCK FATALITIES

Mr. **Carr**. Please provide for the record the data on occupant fatalities in the back of pickup trucks, as shown on page 787 of last year's hearing record, by providing data for 1991.

[The information follows:]

Occupant Fatalities in USA, 1991

Occupant fatalities	34,700
Occupant fatalities in pickup	5,662
Percent of total occupant fatalities (percent)	16.3
Occupant fatalities in open bed only of pickup	198
Percent of occupant fatalities in pickup (percent)	3.5

SELECTIVE TRAFFIC ENFORCEMENT PROGRAM EFFECTIVENESS

Mr. **Carr**. What has been the effectiveness of the Selective Traffic Enforcement Program (STEP) such that it should be expanded to additional sites?

[The information follows:]

The FY-1993 Selective Traffic Enforcement Program (STEP) demonstration projects are not expected to be awarded until the end of the fiscal year; therefore, NHTSA does not have any impact data from this particular program at the present time.

Based on the experience of the Canadian STEPs which have increased usage in that country to 85 percent, and in some Provinces to as high as 95 percent, the agency is confident that the program will produce positive results in this country as well. This experience is further supported by the results of various community-level STEPs and by the 1991 and 1992 Summer Safety Belt Campaign efforts conducted by the States. Over the 2-year campaign period, several states increased usage by 10 or more percentage points and 11 states increased usage by 5–9 points. These gains were achieved even though no state fully implemented a statewide STEP comparable to that accomplished in Canada. Therefore, NHTSA is optimistic that the statewide STEP demonstrations will be successful.

STEP SITES AND COST

Mr. **Carr**. What sites were supported in fiscal year 1993 and at what cost?

[The information follows:]

Sites have not been selected to date. The agency expects proposals to be submitted by mid-summer and awards to be made by late September. Two grant awards are anticipated in the range of $300,000 each. Additional awards will be considered based on the quality of the applications received and funds available.

The Agency feels this level of funding is needed to leverage the interest and commitment that will be required to coordinate, conduct and evaluate the demonstration.

Mr. **Carr**. What additional sites are you looking at to expand the program in fiscal year 1994 and what would be the additional cost?

[The information follows:]

Site selection for FY 1994 STEPs will be determined in the same manner as for the FY 1993 demonstrations, through a competitive application process among states with safety belt use laws. As in FY 1993, the Agency is planning to support at least two grants in the range of $300,000 each, subject to the availability of appropriated funds.

BENEFITS OF SAFETY BELTS AND MOTORCYCLE HELMETS STUDY

Mr. **Carr**. Congress has provided $5.0 million to NHTSA for the development of a report to Congress on the benefits of safety belt use and motorcycle helmet use using state trauma data. What is the status of your work and when do you anticipate completing the study?

[The information follows:]

NHTSA has named this program the Crash Outcome Data Evaluation System (CODES). Through grants to states, occupant-specific statewide police-reported crash data will be linked with injury data collected by emergency medial services, emergency departments, hospitals, and rehabilitation and long-term care centers to provide the database for an analysis of the benefits of safety belt and motorcycle helmet use. Effective October 1, 1992, NHTSA awarded grants to Hawaii, Maine, Missouri, New York, Pennsylvania, Utah, and Wisconsin.

Site visits have been held at six of the seven grantees to assist in implementing the probabilistic linkage. The final site visit will be completed by the end of May 1993. Each grantee also is developing an analysis plan which will be reviewed and approved by NHTSA. Following their approved plan, grantees will analyze their linked data bases and provide a final report to NHTSA in April, 1994.

The report to Congress, due in April 1995, will be prepared by NHTSA and will be based on the grantees' final reports. It will document the results of each of the grantee projects and analyses. This report will document the CODES program and the results of the grantee analytical efforts to assess the benefits of safety belts and motorcycle helmets.

ANNUAL FATALITY RATE FOR UNRESTRAINED SMALL CHILDREN

Mr. Carr. The states have varying laws covering the conditions and requirements for protecting small children when they are in motor vehicles through the use of child safety seats or safety belts. Many states allow safety belts to substitute for child safety seats permit exemptions when children meet a variety of age or size criteria.

Can you tell us how many small children are killed and severely injured annually due to the non-use of child safety seats or seat belts?

[The information follows:]

In 1991, 593 children under age five were killed when riding in passenger vehicles. About 50,000 additional children were severely injured, sometimes in minor collisions or quick stops when an unrestrained child was thrown into the hard surface of the dash or window and sustained serious head or spinal injuries. Of the fatalities, for which we have the most complete information, 376 were unrestrained, 52 were in safety belts, and 165 were in safety seats. It is estimated that 217 children's lives were saved because they were in safety seats. Of those children who died in safety seats, some died because the seats were not used correctly and others died because the crash was too severe to be survived.

UNRESTRAINED CHILDREN: ENFORCEMENT OF STATE LAWS

Mr. Carr. What is NHTSA doing to encourage states to improve enforcement of existing state child passenger safety laws?

[The information follows:]

The agency is currently developing a model child passenger safety enforcement program, including a training module for law enforcement officers. This program will supplement existing occupant protection training programs with additional information about child passenger safety. The emphasis will be on helping officers understand the importance of child restraint systems and the need to protect children by enforcing existing laws.

Outreach programs conducted by NHTSA with public and private sector organizations emphasize the need to publicly support local and state enforcement efforts through a variety of means including letters to the editor, working with law enforcement to provide education to the community, and publicizing enforcement efforts and the resulting benefits (e.g. survivor stories). Organizations working with NHTSA also promote support for child passenger safety enforcement programs among their members.

UNRESTRAINED CHILDREN: STRENGTHENING STATE LAWS

Mr. CARR. Is there a need for some states to strengthen their laws to provide better protection for children? What has NHTSA done to assist the states in these efforts, and what are NHTSA's plans in this regard?

[The information follows:]

Due to several common weaknesses in existing child passenger safety laws, there is a need to strengthen these laws. The most common problems with child passenger safety laws include limitations on the age or weight of children required to be restrained; substitution of belts for child restraint systems below 4 years and/or 40 pounds; allowance for transporting more people than the number of belts available; exemption of certain types of vehicles or vehicles registered outside the state; limitation of responsibility for children's safety to parents or guardians only; waivers for tending to the child's needs or for medical necessities; and waiver of fines in-lieu of obtaining a child safety seat. For children covered by safety belt laws, problems include their application to front seat passengers only; secondary enforcement; and no designation of an adult responsible for children covered under the law.

In order to provide assistance to the states, NHTSA has recently published a report, prepared for the Agency by the American Academy of Pediatrics, discussing the child passenger safety laws and their protection gaps. In addition, NHTSA conducts technical assessments of state's occupant protection programs. These assessments include a review of the state's laws and the level of protection provided. Technical experts brought in for the assessment provide advice on how the state might best correct inadequacies in their laws to provide better occupant protection for children. Other national organizations, such as the National PTA, APP, and SAFE KIDS, work with the agency to promote support for child passenger safety enforcement programs through their membership.

ADJUSTABLE SHOULDER HARNESSES

Mr. CARR. Concerns have been raised about whether existing safety belts provide adequate protection for small children, and more specifically whether adjustable lap/shoulder belts are needed in vehicles to properly fit and protect small children. In previous administrations, NHTSA declined to conduct a rulemaking on adjustable shoulder harnesses. Will you reconsider your position?

[The information follows:]

The agency is conducting a high-priority rulemaking concerning the adequacy of motor vehicle safety belts for small adults and children. The 1991 Intermodal Surface Transportation Efficiency Act directed the agency to initiate rulemaking that would result in "improved design for safety belts."

The agency published an Advance Notice of Proposed Rulemaking (ANPRM) on May 29, 1992. The notice proposed alternative regulatory actions.

The notice contained questions on the safety need, cost, benefits, objectivity of the test procedure, and practicability of adjustable safety belt systems.

The docket closed on July 28, 1992. Responses were received from thirty-one organizations and individuals.

The agency is currently conducting research on this subject. The objective of the research is to evaluate the test procedures and effectiveness of the concepts proposed in the ANPRM. We expect to take the next regulatory step this Fall.

IMPROVING BELT USE AMONG CHILDREN

Mr. CARR. If not, how do you intend to improve the use and effectiveness of safety belts for small children?

[The information follows:]

As stated before, the agency is conducting a high-priority rulemaking concerning the adequacy of motor vehicle safety belts for small adults and children. The 1991 Intermodal Surface Transportation Efficiency Act directed the agency to initiate rulemaking that would result in "improved design for safety belts."

The agency published an Advanced Notice of Proposed Rulemaking (ANPRM) on May 29, 1992. The notice proposed alternative regulatory actions.

The notice contained questions on the safety need, cost, benefits, objectivity of the test procedure, and practicability of adjustable safety belt systems.

The docket closed on July 28, 1992. Responses were received from thirty-one organizations and individuals.

The agency is currently conducting research on this subject. The objective of the research is to evaluate the test procedures and effectiveness of the concepts proposed in the ANPRM. We expect to take the next regulatory step this Fall.

BOOSTER SEAT RULEMAKING

Mr. Carr. An advance notice of proposed rulemaking was issued on May 29, 1992 on child booster seat safety. The issues addressed in the rulemaking included increasing the variety of infant and child sized dummies for compliance testing, changing the test criteria for belt-positioning booster seats, consideration of abdominal pressure criteria for booster seats, and improving proper use of booster seats.

[The information follows:]

The agency is proposing to amend the standard to accommodate belt-positioning booster seat child restraint systems. Test procedures are being developed to certify these booster seats, which require lap and shoulder vehicle belt systems to restrain them in motor vehicles. We expect a notice of proposed rulemaking to be issued this summer.

Mr. Carr. What is the status of NHTSA's efforts to initiate these improvements?

[The information follows:]

The agency is proposing to amend the standard to accommodate belt-positioning booster seat child restraint systems. Test procedures are being developed to certify these booster seats, which require lap and shoulder vehicle belt systems to restrain them in motor vehicles. We expect a notice of proposed rulemaking to be issued this summer.

BOOSTER SEAT NPRM

Mr. Carr. What is the next step in the rulemaking process, and do you intend to amend safety standard 213 to include the use of lap/shoulder belts in the testing of child restraint systems?

[The information follows:]

The next step is to amend safety standard 213 to include the use of lap/shoulder belts in the testing of certain child restraint systems. A notice of proposed rulemaking (NPRM) is scheduled for publication in July 1993, to amend the standard. Also, a second NPRM will be published this summer to introduce new dummies for testing child restraint systems and will specify which dummies should be used in certifying child restraint systems for use by children of various weight ranges.

BOOSTER SEAT ANPRM COMMENTS

Mr. Carr. Please summarize for the record the comments you received in response to the ANPRM.

[The information follows:]

Twenty three commenters consisting of eight manufacturers and 15 consumer groups, child safety advocates, state government agencies, and private citizens responded to the May 29, 1992 ANPRM to amend Federal Motor Vehicle Safety Standard No. 213, Child Restraint Systems, to better accommodate booster seat child restraint systems. [A detailed summary of these comments, by respondent and by major issue, has been placed in the National Highway Traffic Safety Administration Docket No. 74-09, General Reference, No. 25.]

Most commenters were supportive of the proposal to accommodate, in the standard, belt-positioning booster seats, which require lap and shoulder vehicle belt systems for restraining their occupants. The commenters generally believed that booster seats should not be used by children weighing less than 30 pounds and that the definitions of various types of booster seats should not be design restrictive. Even though some commenters believed that the test procedure should address possible misuse, they stated that booster seats should only be tested when installed per manufacturer's instructions. Other commenters believed that booster seats should be tested with both lap alone and lap/shoulder vehicle belt systems.

The majority of the commenters believe that the upper weight limit of the standard should be raised only if test dummies representing the older/heavier children become available. Most of the commenters supported the agency's proposal to introduce additional child dummies and to use at least two dummies to test a child restraint system's recommended child weight range.

Several commenters wanted the compliance tests to involve a criterion associated with the child restraint's recommended children's height range for use. They generally believed that specifications should be developed for a standard seat and standard crash pulse to test add-on child restraints that are representative of the seat geometries and belt systems of vehicles and restraint systems currently in use. Motor vehicle manufacturers commented that the dummy excursion performance is not yet defined for built-in devices, when tested in the vehicle instead of in the sled assembly. Several commenters stated that more testing is needed prior to inclusion in the standard of neck and abdominal injury criteria and procedures.

CHILD PASSENGER SAFETY WORKSHOP ATTENDANCE

Mr. CARR. How well attended have your child passenger safety workshops been?

[The information follows:]

More than 5,400 people have attended the child passenger safety technical workshops since the program began in December 1992. To date, 34 child passenger safety workshops have been conducted.

Attendees have been from diverse fields such as: medical/health community groups, State health departments, service organizations, enforcement agencies, Head Injury Foundation and Easter Seal affiliates, welfare/WIC programs, Safe Kids coalitions, hospital and medical associations, automobile dealerships and associations, insurance companies, discharge nurses, firefighters/EMS branches, major retailers, early childhood organizations, extension homemakers groups, loaner programs, etc.

Approximately 110 people attended each workshop. In three states, workshops were attended by 200–300 persons. These workshops were conducted in conjunction with legislative sessions in the State capitol, or broad-based health or education conferences.

CHILD PASSENGER SAFETY WORKSHOP EFFECTIVENESS

Mr. CARR. How effective were the workshops?

[The information follows:]

The workshops are designed to motivate and prepare State and local child passenger safety advocates so that they may take a more active role in increasing the correct use of child safety seats. The workshops also develop trainers who can provide technical support and training to loaner programs, police departments, EMS and others.

More than 5,400 child passenger safety advocates from a variety of disciplines have been trained in 34 workshops held to date. Eight States have held their own follow-up workshops and several others are being planned.

Participant and State sponsored evaluations have been very enthusiastic about the success of these workshops. Additional indications of effectiveness have been found in applications received for the National Chiefs Challenge Awards and in Operation Buckle Down reports. Local police agencies are reporting that they are sending representatives to these workshops who return prepared to teach their colleagues how to deal with child safety seat enforcement issues. Local police agencies also report they have received extensive support from local advocates which has resulted in their expanding enforcement activities.

The workshops have also been successful in bringing together the various national private organizations involved in child passenger safety and putting them in contact with the State and local government agencies working in their field. The National Safe Kids Campaign and the Easter Seals organization have both used these workshops to link their local affiliates and to better coordinate resources going to child passenger safety.

The workshops have prompted renewed interest and enthusiasm in the child passenger safety issue by increasing the breadth of organizations active in the field. These State and local organizations have succeeded in adding improved child safety seat laws to legislative agendas and in increasing enforcement of child safety seat laws in local communities.

SAFETY BELT DESIGN ANPRM COMMENTS

Mr. CARR. Please provide for the record the comments received in response to your May 29, 1992 advance notice of proposed rulemaking on improved design for safety belts.

[The information follows:]

The agency published an Advanced Notice of Proposed Rulemaking (ANPRM) on May 29, 1992, with the following regulatory options:

Option A: Take no regulatory action at this time.

Option B: Adopt a detailed regulatory test procedure using four different size test dummies.

Option C: Adopt a general requirement that safety belts adjust.

Ten questions were posed in the notice on the safety need, cost, benefits, objectivity of the test procedure, and practicability of providing adjustable safety belt systems.

The docket on this ANPRM closed on July 28, 1992: The comments included 33 responses from manufacturers, consumers and advocacy groups.

Manufacturers, in general, did not support regulatory action.

Consumer advocates supported the proposal.

The benefits cited by responders were anecdotal.

The increased costs provided by commenters for adjustable upper safety belt anchorages varied greatly: $6–$20.

The vehicle manufacturers stated that the proposed test procedure has problems:

6-year-old dummy does not fit in the driver seat.

95th percentile dummy does not fit in some rear automobile seats.

Some of the anchorages will be out of the zone required in Safety Standard 210, "Seat Belt Assembly Anchorages."

CHILD RESTRAINTS AND PASSENGER-SIDE AIR BAGS

Mr. CARR. Are you conducting any research to determine the effects of using child restraints in seating positions where air bags are deployed?

[The information follows:]

In January 1992, the agency completed the testing program that it undertook to determine any potential negative interaction of air bags and child restraint systems. The testing program confirmed that there is negative interaction of air bags and rear-facing child restraint systems. Based on the findings of this program, the agency took the following actions:

(i) A "Consumer Advisory" was issued on December 10, 1991 to warn owners of rear-facing infant seats not to use them in the front seats of cars equipped with an air bag on the passenger side

(ii) An NPRM was published in the Federal Register on December 14, 1992 proposing that manufacturers of motor vehicles be required to provide information on motor vehicle labels and in the owner's manuals about potential negative interactions of air bags and rear-facing child restraints.

(iii) An NPRM was published in the Federal Register on April 16, 1993, proposing that manufacturers of child restraint systems that can be used in a rear-facting position be required to provide, on the warning labels and printed instructions accompanying these systems, a warning against using rear-facing child restraints in any vehicle seating position equipped with an air bag.

STATE-BY-STATE CHILD PASSENGER SAFETY LAWS

Mr. CARR. For the record, please provide a state-by-state listing of child passenger protection laws, including the effective date, the age at which safety seats/other restraints are required, safety belt substitution criteria, and penalties for noncompliance.

[The information follows:]

CHILD PASSENGER PROTECTION LAW

STATE	EFFECTIVE DATE	RESTRAINT REQUIREMENT AGE	SAFETY SEAT REQUIRED	MAY SUBSTITUTE SAFETY BELTS	PENALTY[3]
Alabama	7/82	Under 6	Under 6	Either 4 or 5	$10
Alaska	6/85	Under 16	Under 4	4 thru 15	$50, 2 pts.
Arizona[1]	8/83	Thru 4 (2)	Thru 4 (2)	No	$50
Arkansas	8/83	Under 5	Under 3	Between 3 & 5	$10-$25
California	1/83	Under 4(2)	Under 4(2)	No	$100
Colorado	1/84	Under 4	Under 4	No	$59
Connecticut	5/82	Under 4	Under 4	Between 1 & 4 in rear seat	$25-$100
Delaware	6/82	Under 4	Under 4	No	$25
Dist. of Columbia	7/83	Up to 16	Under 3	Between 3 & 6	$55, 2pts.
Florida	7/83	Under 6	Under 4	Between 4 & 6	$150, 3 pts.
Georgia	7/84	Under 5	Under 3	Between 3 & 5	$25
Hawaii	7/83	Under 4	Under 3	Between 3 & 4	$100 maximum
Idaho[1]	1/85	Under 4(2)	Under 4(2)	No	$100 maximum
Illinois	7/83	Under 6	Under 4	Between 4 & 6	$25-$50
Indiana	1/84	Under 5	Under 3	Between 3 & 5	$50-$500
Iowa	1/85	Under 6	Under 3	Between 3 & 6	$10
Kansas	1/82	Under 14	Under 4	Between 4 & 13 all positions	$20
Kentucky[1]	7/82	Under 40"	Under 40"	No	$50
Louisiana	9/84	Under 5	Under 5	Between 3 & 5 in rear seat	$25-$50
Maine	9/83	Under 19	Thru 4	Between 1 & 4 if not in parent's vehicle	$25-$50
Maryland	1/84	Under 10	Under 4(2)	Between 4 & 10	$25-$50
Massachusetts	1/82	Thru 12	Under 5	Under 5	$25
Michigan	4/82	Thru 15	Thru 4	1 thru 4 in rear seat	$10
Minnesota	8/83	Under 11	Under 4	4 thru 10 in rear seat	$25
Mississippi	7/83	Under 2	Under 2	No	$25
Missouri	1/84	Under 4	Under 4	Under 4 in rear seat	$25
Montana[1]	1/84	Under 4(2)	Under 2	Between 2 & 4	$10-$25
Nebraska	8/83	Under 5(2)	Under 4(2)	Between 4 & 5	$25
Nevada	7/83	Under 5	Under 5	Under 5 in rear seat	$35-$100
New Hampshire	7/83	Under 12	Under 5	Under 5 thru 12 all positions	$500 maximum
New Jersey	4/83	Under 5	Under 5	Between 1 1/2 & 5 in rear seat	$10-$25
New Mexico	6/83	Under 11	Under 5	Between 1 & 5 in rear seat	$25
New York	4/82	Under 10	Under 4	Between 4 & 10 in rear seat	$100 maximum
North Carolina	7/82	Under 6	Under 3	Between 3 & 6	$25
North Dakota	1/84	Thru 10	Under 3	3 thru 10	$20
Ohio	3/83	Under 4(2)	Under 4(2)	Between 1 & 4 if not in parent's vehicle	$10
Oklahoma	11/83	Under 5	Under 4	Under 4 in rear, 4-5 in front or rear	$25 maximum
Oregon	1/84	Under 16	Under 1	Between 1 & 5	$50 maximum
Pennsylvania	1/84	Under 4	Under 4	Between 1 & 4 in rear seat	$25
Puerto Rico	1/89	Under 4	Under 4	Over 40 pounds	$10
Rhode Island	7/80	Thru 12	Thru 3	No	$100 maximum
South Carolina	7/83	Under 6	Under 4	Between 1 & 6 in rear seat	$25
South Dakota	7/84	Under 5	Under 2	Between 2 & 5	$20
Tennessee	1/78	Under 4	Under 4	No	$25-$50
Texas	10/84	Under 4	Under 2	Between 2 & 4	$25-$50
Utah	7/84	Under 8	Under 2	Between 2 & 8	$20
Vermont	7/84	Thru 12	Under 5	Between 1 & 5 in rear seat	$25
Virginia	1/83	Under 4	Under 3	Between 3 & 4	$50
Washington[1]	1/84	Under 5	Under 1	Between 1 & 5	$30
West Virginia	7/81	Under 9	Under 3	Between 3 & 5	$10-$20
Wisconsin	11/82	Under 8	Under 4	Between 5 & 8	$10-$200
Wyoming	4/85	Under 3(2)	Under 3(2)	No	$25

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[1] Law applies only to parents and legal guardians. (2)Or less than 40 pounds. [3] Most States waive fines upon proof of safety seat acquisition.

U.S. Department of Transportation, Washington, DC 20590
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
Regional Operations (202) 366-2672

CHILD RESTRAINT SYSTEM FINAL RULE SUMMARY

Mr. **Carr**. You have issued a final rule on the registration of child restraint systems. Would you briefly summarize what will be required?

[The information follows:]

The rule requires manufacturers of child restraint systems to provide a postage paid registration form with each child restraint system. It also requires manufacturers to provide information to purchasers about the importance of registering the restraint, as well as information necessary to enable subsequent owners to register the restraint. The rule also adds new regulations that require manufacturers to keep records of the names and addresses of persons who have registered their child restraints.

CHILD SAFETY SEAT USE DATA

Mr. **Carr**. Also for the record, please update the data on the use of child safety seats, as shown on page 806 of last year's hearing record, by deleting 1986 and adding 1991.

[The information follows:]

USE OF CHILD SAFETY SEATS OBSERVED IN 19 U.S. CITIES, 1987–91

	Observation year				
	1987	1988	1989	1990	1991
(a) Percent of children in cars observed in child safety seats	80	84	81	83	83
(b) Percent of (a) harnessed and facing in proper direction	86	85	90	91	90
(c) Percent of child safety seats installed correctly in car	74	78	83	85	83
(d) Inferred percent of overall correct use of child safety seats	63	67	75	77	75
(e) Inferred percent of children in cars fully protected	51	56	61	64	62

FUNDING FOR SEAT BELT-RELATED ACTIVITIES

Mr. **Carr**. Including all sources (Section 402, Section 153, highway safety, research, etc.), how much funding is requested for seat belt-related activities in fiscal year 1994, and how does that compare to fiscal years 1993 and 1992?

[The information follows:]

The funding request for seat belt-related activities for fiscal year 1994 compares with the funding levels in fiscal years 1992 and 1993 for all sources as follows. These figures include funding support for child passenger safety as well.

[Dollars in thousands]

Source	FY 1992	FY 1993	FY 1994 Request
Section 402	20,997	[1]20,470	$22,013
Section 403	6,753	6,059	6,753
Highway safety	(5,773)	(5,087)	(5,773)
Research	(980)	(972)	(980)
Section 153	[1]11,500	[1]9,000	[1]11,250
State grants	[1]9,000	[1]9,000	[1]11,250
Research study	2,500	(0)	(0)
Totals	39,250	35,529	40,016

[1] These figures reflect an estimated distribution of obligations based on current information and extrapolated to total amounts. The actual distribution of obligations will be determined by the States.

EMS PROGRAM FUNDING REDUCTION

Mr. CARR. The budget includes $978,000 for Emergency Medical Services in fiscal year 1994, a reduction of $565,000. What will be discontinued in fiscal year 1994?

[The information follows:]

All programs in emergency medical services (rural issues, technical assistance, and training) will be continued in FY 1994, but at a lower level of effort. In FY 1993, Congress authorized an additional $700,000, above NHTSA's request, for emergency medical services. NHTSA's funding request in FY 1994 is similar to the FY 1993 funding request. In FY 1994, NHTSA will complete the rural preventable mortality studies initiated in FY 1993, support a project focusing on EMS needs of Native American populations, and support rural EMS demonstrations.

In addition, the Agency will continue to provide technical assistance to the States focusing specifically on problems identified in the Statewide EMS Technical Assessment Reports, including development of trauma systems, public information and education, communications, and uniform prehospital data. NHTSA will continue to update the national standard curricula which serve as standardized training criteria for the states. The Agency will complete the revision of the EMT-Basic National Standard Curricula, Ambulance Driving Training Program, EMT Instructor Training Program, continue the revision of the EMS Dispatcher National Standard Curriculum, and initiate revision of the First Responder National Standard Curriculum (police, fire, and EMS). The advanced levels of EMT training remain to be revised.

EMS ASSESSMENTS

Mr. CARR. By the end of this fiscal year, NHTSA will have completed EMS assessments in 42 states. What can you tell us about the extent to which communities remain unserved or underserved by trauma systems?

[The information follows:]

NHTSA has completed 36 EMS assessments to date. This process does not compare states against each other but assesses each state against a set of optimal standards developed for this program, one of which is "Trauma Systems." To date, no states have met the Trauma System standard. Several states do, however, have many components in place and have enacted comprehensive trauma legislation (i.e., Virginia), and some communities have functioning comprehensive trauma systems (i.e., San Diego). The standard presupposes fully functioning EMS systems. Shortcomings in many state EMS systems make the implementation of fully functioning trauma systems difficult.

NHTSA offers a Development of Trauma Systems (DOTS) workshop that provides guidance to states in the development of comprehensive trauma systems of care. Eighteen workshops have been presented to date, and many states are active in developing effective systems.

EMS DATA FROM CALIFORNIA, VIRGINIA, AND NORTH CAROLINA

Mr. CARR. Last year, you told us that three states—California, Virginia, and North Carolina—do not report emergency medical response data that is needed for national statistics. Have you made any progress in working with these states to get the data released?

[The information follows:]

NHTSA, through its Regional representatives and the State Fatal Accident Reporting System (FARS) personnel, has made some progress in opening the lines of communication necessary for these States to obtain more data for emergency medical service (EMS) response times in fatal crashes. While California and North Carolina are making progress in establishing communication to local EMS organizations to obtain this data, progress continues to be slow in Virginia. These States continue to have difficulty in reporting a meaningful amount of data regarding EMS response times in FARS. Unfortunately, these States do not have the centralized coordination of a Statewide EMS data system necessary to collect and report on EMS response times for the majority of fatal crashes.

The Agency will continue to provide technical assistance for improving State EMS data reporting by sponsoring a Uniform Prehospital EMS Data Conference in August 1993, and focusing on problems of access to and linkage of police crash reports, ambulance run reports, and hospital treatment data.

NATIONAL STANDARD CURRICULA FOR EMS TRAINING

Mr. CARR. What is budgeted in fiscal year 1994 to continue to update the national standard curricula for EMS training?

[The information follows:]

The fiscal year 1994 budget for revising national standard curricula is $150,000. NHTSA intends to complete the revision of the EMS Dispatcher National Standard Curriculum and to revise the First Responder National Standard Curriculum.

A "National Blueprint for EMS Training" is being developed by the EMS community to guide the development and implementation of national EMS training programs. NHTSA has participated in this cooperative effort and intends to utilize the Blueprint in its future planning process. A national consensus conference will take place in May 1933, to finalize the Blueprint document.

JACKSON MEMORIAL STUDY

Mr. CARR. Please provide a status report on the study of automobile-related injuries being conducted at the Trauma Center at Jackson Memorial Hospital in Miami, Florida, and discuss why the fiscal year 1994 budget does not request any funding for this activity.

[The information follows:]

The Jackson Memorial Hospital, Ryder Trauma Center, became operational last summer. The agency has just received its first set of 45 cases on injuries to restrained occupants in frontal crashes studied at the Trauma Center. The agency has also received several presentations on the changing nature of crash injuries in the restrained population as protected by safety belts and air bags.

With regard to the fiscal year 1994 budget, we are requesting $500 thousand for our Highway Traffic Injury Studies. However, we are presently assessing our need for where such activities will be located.

RURAL PREVENTABLE MORTALITY STUDIES

Mr. CARR. Last year the Committee added $300,000 in funding to support rural preventable mortality studies in two states. Please give us an update on your progress in implementing these studies and indicate which states will be included.

[The information follows:]

A Request for Proposals was announced in the Commerce Business Daily on March 8, 1993, and the final submission date for proposals was April 27, 1993. A panel will convene to evaluate, rank and select successful bidders within the next several weeks. The awards will be made before September 30, 1993. At this point, NHTSA has not selected the states to be included in the studies.

FATALITY RATES BY VEHICLE CATEGORIES

Mr. CARR. Please update the chart found on page 664 of last year's hearing record concerning fatality rates by vehicle categories.

[The information follows:]

FATALITIES IN CRASHES BY VEHICLE TYPE PERCENT CHANGE FROM 1991–92

Vehicle type	1990	1991	1992 [1]	Percent change 1991–92
Passenger car	24,092	22,347	21,332	–5
Light trucks/vans	8,601	8,380	8,218	–2
Motorcycle	3,244	2,808	2,326	–17
Heavy trucks	571	544	490	–10
All other vehicles	626	621	709	14
Nonoccupants (predestrians and bicyclists)	7,465	6,762	6,125	–9
Total	44,599	41,462	39,200	–5

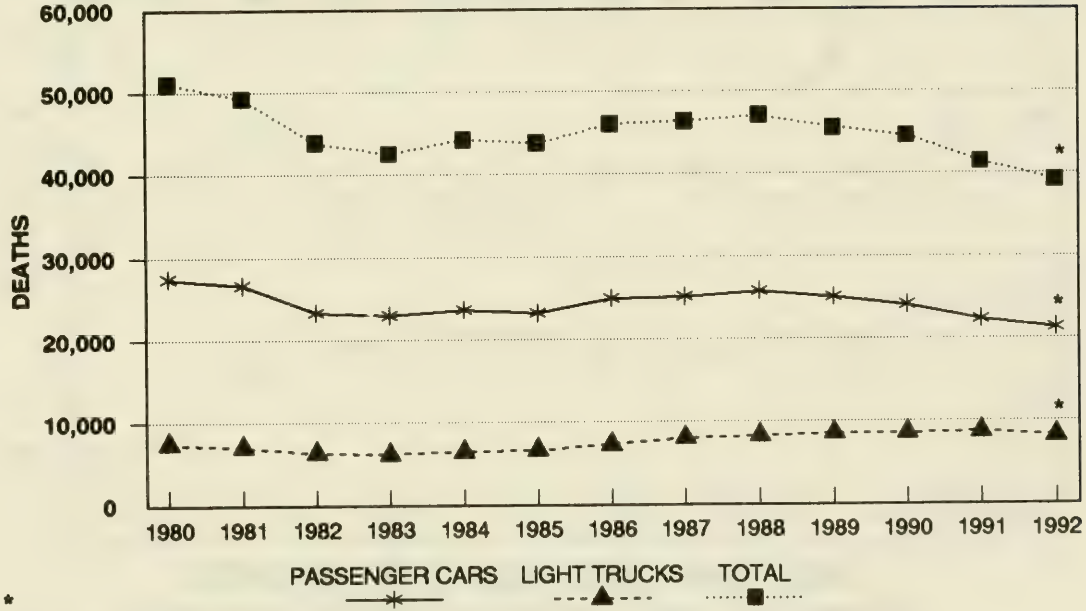
[1] 1992 values are preliminary estimates.

VEHICLE OCCUPANT DEATHS DATA

Mr. CARR. Please update for the record the data on vehicle occupant deaths found on pages 665–669 of last year's hearing record.

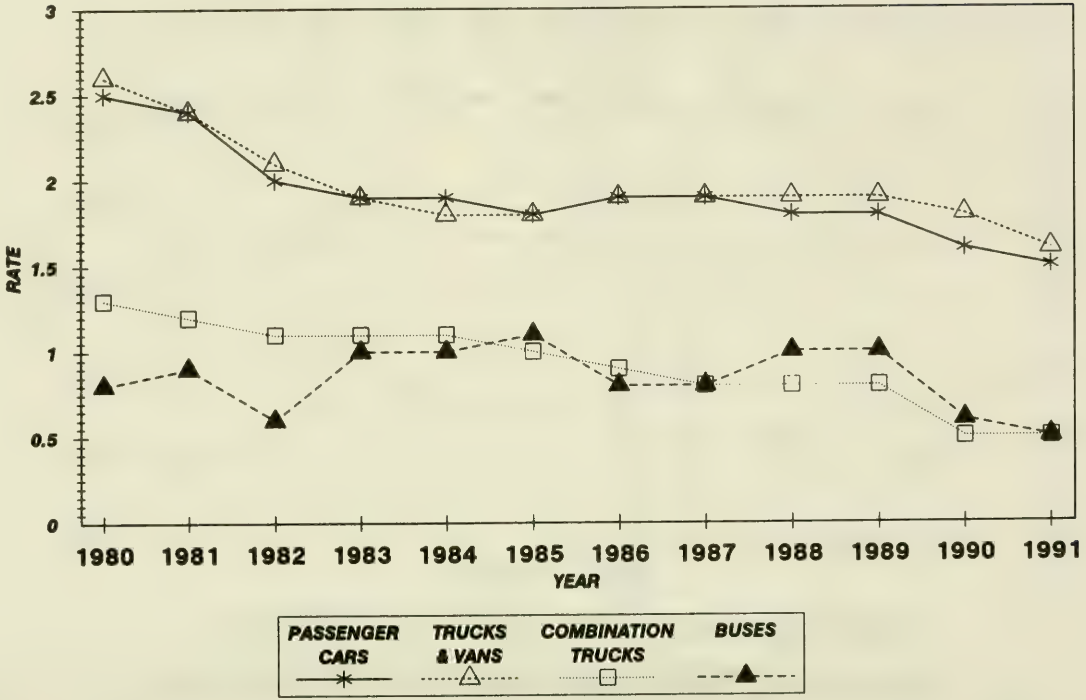
[The information follows:]

VEHICLE OCCUPANT DEATHS FOR
PASSENGER CARS AND LIGHT TRUCKS
1980 - 1992



* 1992 - ESTIMATED DATA

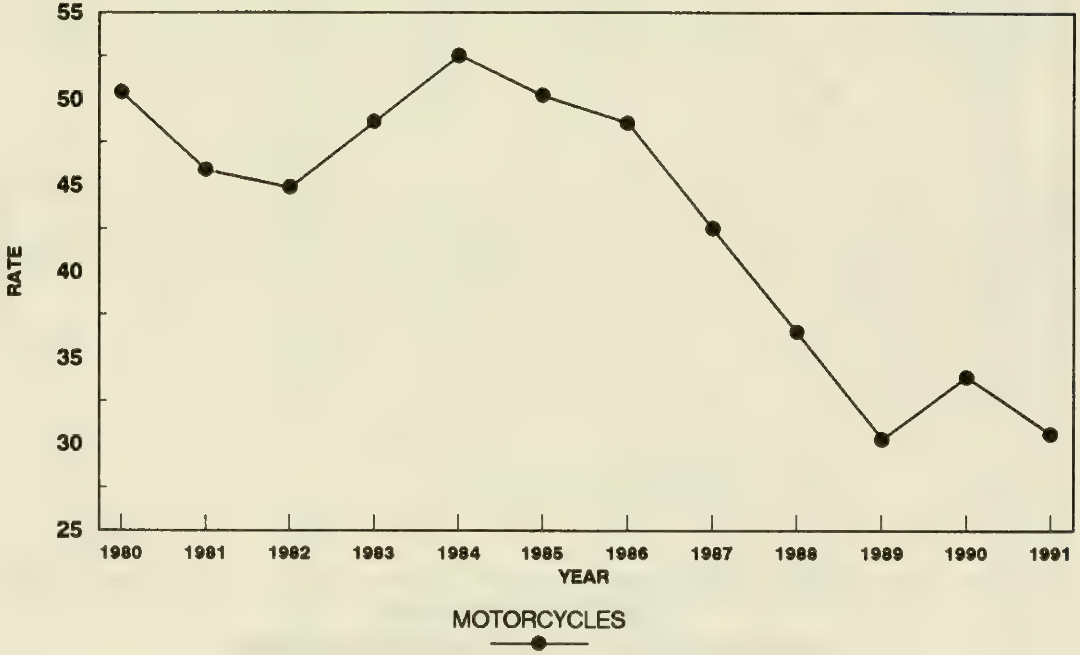
OCCUPANT FATALITY RATES PER 100 MILLION VEHICLE MILES TRAVELED 1980 - 1991



OCCUPANT FATALITY RATES PER 100 MILLION

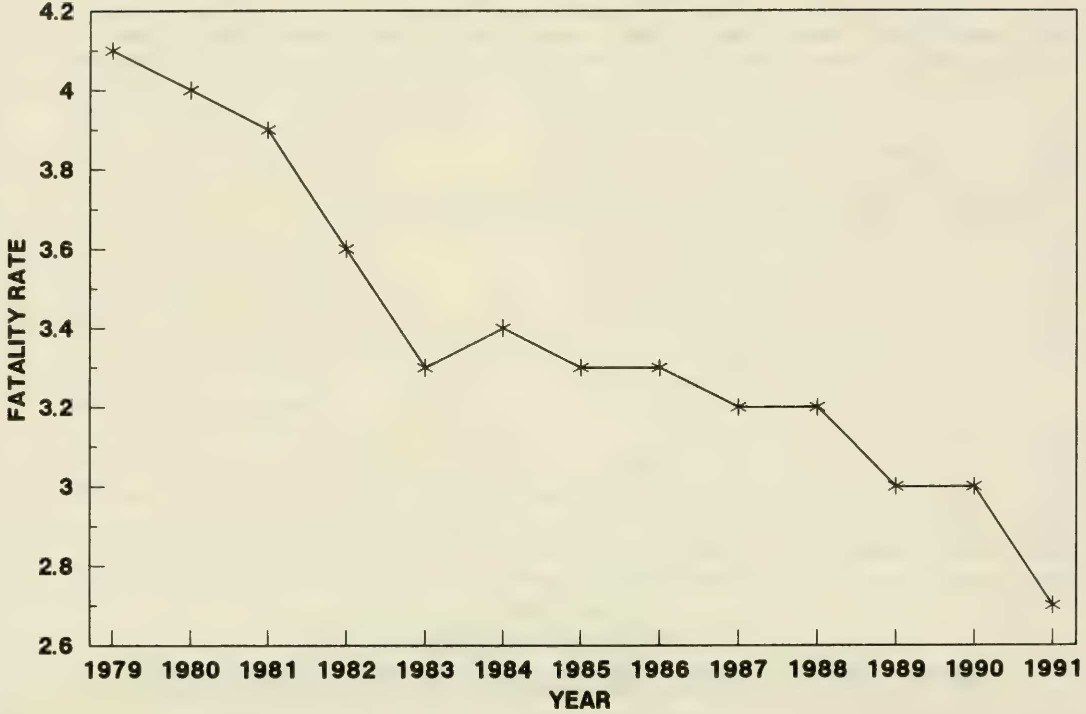
VEHICLE MILES TRAVELED

1980 - 1991



NON-OCCUPANT FATALITY RATE

PER 100,000 POPULATION



FATALITIES PER 100 MILLION REGISTERED VEHICLES DATA

Mr. CARR. Please also update for the record the data on fatalities per 100 million registered vehicles, as shown on page 670 of last year's hearing record.

[The information follows:]

FATALITIES PER REGISTERED VEHICLE 1991

Vehicle type	Fatals	Registered vehicles	Fatalities per 100 million reg. veh.	Rate/ average fatality rate
Small car	14,623	71,472,611	204.6	1.1
Medium car	5,034	28,480,748	176.8	1.0
Large car	2,570	23,373,977	110.0	0.6
Small van	576	4,961,312	116.1	0.6
Standard van	545	5,585,104	97.6	0.5
Small pickup	2,519	11,118,769	226.6	1.2
Standard pickup	3,357	15,800,094	212.5	1.2
Utility vehicle	1,389	7,395,099	187.8	1.0
Total cars	22,227	123,327,336	180.2	1.0
Total light trucks	8,386	44,860,378	186.9	1.0
Total	30,613	168,187,714	182.0	1.0

Note: Vehicle Registration data compiled from the R.L. Polk & Co. 1991 issue of the National Vehicle Population Profile. This information published with the permission of R.L. Polk & Co.

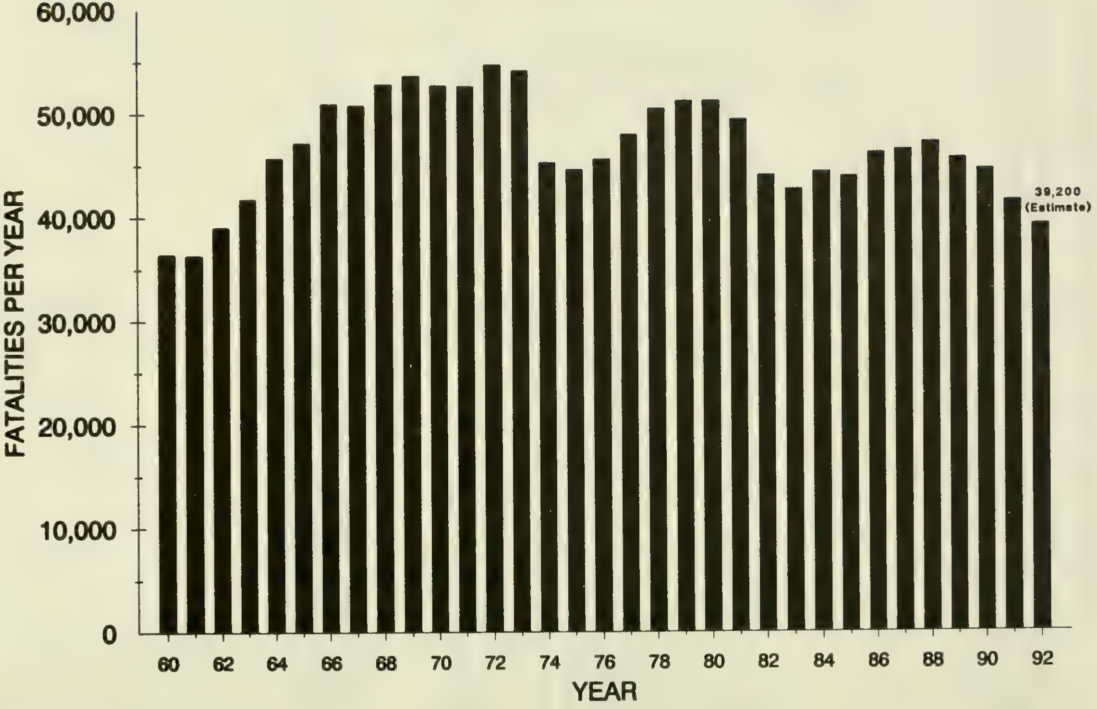
U.S. TRAFFIC FATALITIES CHART

Mr. CARR. Please update for the record the bar chart on U.S. traffic fatalities shown on page 671 of last year's hearing record.

[The information follows:]

U.S. TRAFFIC FATALITIES

BY YEAR, 1960 TO 1992



MOTOR VEHICLE FATALITY TRENDS DATA

Mr. Carr. Please update the data on motor vehicle fatality trends found on page 673 of last year's hearing record.

[The information follows:]

Trends in Motor Vehicle Traffic Deaths in the United States 1969, 1979–1992

Item	1969	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992 *
Deaths	53,542	51,093	51,091	49,301	43,945	42,589	44,257	43,825	46,087	46,390	47,087	45,582	44,599	41,462	39,200
Motor Vehicle Travel (billion vehicle miles)	1,062	1,529	1,527	1,553	1,595	1,653	1,720	1,774	1,835	1,921	2,026	2,096	2,144	2,172	2,237
Registered Motor Vehicles (100,000)	1,074	1,573	1,615	1,641	1,654	1,693	1,717	1,771	1,809	1,839	1,890	1,917	1,929	1,925	1,938
Resident Population (100,000)	2,014	2,246	2,273	2,296	2,320	2,343	2,365	2,387	2,411	2,434	2,458	2,482	2,487	2,522	2,551
Licensed Drivers (100,000)	1,083	1,433	1,453	1,471	1,502	1,544	1,554	1,569	1,595	1,618	1,629	1,656	1,670	1,690	1,715
DEATH RATES															
Per Hundred Million Vehicle Miles	5.0	3.3	3.3	3.2	2.8	2.6	2.6	2.5	2.5	2.4	2.3	2.2	2.1	1.9	1.8
Per 100,000 Registered Vehicle	49.85	32.48	31.64	30.04	26.57	25.16	25.78	24.75	25.48	25.23	24.91	23.78	23.12	21.54	20.23
Per 100,000 Resident Population	26.58	22.75	22.48	21.47	18.94	18.18	18.71	18.36	19.12	19.06	19.16	18.37	17.93	16.44	15.37
Per 100,000 Licensed Drivers	49.44	35.65	35.16	33.52	29.26	27.58	28.48	27.93	28.89	28.67	28.91	27.53	26.71	24.53	22.86
VEHICLE AND DRIVER RELATIONSHIP															
Ratio, Registered Motor Vehicles to Licensed Drivers	0.99	1.10	1.11	1.12	1.10	1.10	1.10	1.13	1.13	1.14	1.16	1.16	1.16	1.14	1.13
Ratio, Registered Motor Vehicles to Resident Populatio	0.53	0.70	0.71	0.71	0.71	0.72	0.73	0.74	0.75	0.76	0.77	0.77	0.78	0.76	0.76
Ratio, Licensed Drivers to Resident Population	0.54	0.64	0.64	0.64	0.65	0.66	0.66	0.66	0.66	0.66	0.66	0.67	0.67	0.67	0.67

* Preliminary Estimate

Source: Fatalities – Fatal Accident Reporting System (FARS), NHTSA.
Registered Vehicles, Licensed Drivers
Vehicle Miles of Travel – Federal Highway Administration.
Population – Bureau of the Census.

STATE RANKING BY FATALITY RATE DATA

Mr. Carr. Please update for the record the tables on State ranking by fatality rate, as shown on page 675 of last year's hearing record by providing data for 1991.

[The information follows:]

1991 RANKING OF STATE FATALITY RATES

RANK	STATE	FATALITIES	VEHICLE MILES TRAVELED (MILLIONS)	*RATE PER 100 MILLION VMT
1	NEVADA	297	10,510	2.8
2	MISSISSIPPI	699	24,897	2.8
3	NEW MEXICO	469	16,773	2.8
4	ARKANSAS	608	21,934	2.8
5	ALABAMA	1,112	42,924	2.6
6	WEST VIRGINIA	415	16,026	2.6
7	SOUTH CAROLINA	890	34,456	2.6
8	IDAHO	264	10,318	2.6
9	ALASKA	101	4,021	2.5
10	SOUTH DAKOTA	143	6,711	2.1
11	LOUISIANA	856	34,710	2.5
12	MONTANA	200	8,314	2.4
13	TENNESSEE	1,113	47,267	2.4
14	KENTUCKY	826	35,213	2.3
15	ARIZONA	816	34,929	2.3
16	FLORIDA	2,464	113,483	2.2
17	IOWA	488	23,020	2.1
18	NORTH CAROLINA	1,369	64,883	2.1
19	WYOMING	122	5,998	2.0
20	MISSOURI	1,011	50,982	2.0
21	COLORADO	543	27,744	2.0
22	NEBRASKA	275	14,095	2.0
23	TEXAS	3,078	158,756	1.9
24	PENNSYLVANIA	1,661	87,282	1.9
25	GEORGIA	1,389	73,005	1.9
26	OKLAHOMA	651	34,240	1.9
27	INDIANA	1,022	54,266	1.9
28	OREGON	484	25,762	1.9
29	VERMONT	110	5,870	1.9
30	NEW YORK	2,009	107,661	1.9
31	DIST OF COL	63	3,430	1.8
32	KANSAS	409	23,186	1.8
33	UTAH	271	15,391	1.8
34	OHIO	1,635	93,002	1.8
35	WISCONSIN	797	45,458	1.8
36	CALIFORNIA	4,685	257,976	1.8
37	MAINE	204	11,849	1.7
38	MICHIGAN	1,408	81,935	1.7
39	ILLINOIS	1,448	85,430	1.7
40	MARYLAND	694	41,349	1.7
41	HAWAII	135	8,143	1.7
42	NORTH DAKOTA	94	5,951	1.6
43	VIRGINIA	942	61,099	1.5
44	DELAWARE	102	6,721	1.5
45	WASHINGTON	682	46,449	1.5
46	NEW HAMPSHIRE	143	9,935	1.4
47	MINNESOTA	531	39,254	1.4
48	NEW JERSEY	784	59,289	1.3
49	RHODE ISLAND	88	7,152	1.2
50	MASSACHUSETTS	552	46,537	1.2
51	CONNECTICUT	310	26,628	1.2
	TOTAL	41,462	2,172,214 **	1.9

* RANKING OF STATES IS BASED ON ACTUAL FATALITY RATE WHICH IS SHOWN TO ONE DECIMAL PLACE FOR REPORTING PURPOSES.

** THE SUM OF INDIVIDUAL STATE VMT MAY NOT EQUAL NATIONAL TOTALS BECAUSE NUMBERS HAVE BEEN ROUNDED.

SOURCES: FATALITIES – FATAL ACCIDENT REPORTING SYSTEM (FARS)
VEHICLE MILES OF TRAVEL – FEDERAL HIGHWAY ADMINISTRATION (FHWA)

March 23, 1993

STATE TRAFFIC FATALITIES DATA

Mr. CARR. Please update the data on state traffic fatalities as shown on page 677 of last year's hearing record.

[The information follows:]

FATAL CRASHES BY STATE

	TOTAL				PERCENT CHANGE		
STATE	* 1992	1991	1983	1980	80 to 83	83 to 91	91 to 92
ALABAMA	890	980	806	835	−3	22	−9
ALASKA	85	90	135	79	71	−33	−6
ARIZONA	699	727	616	833	−26	18	−4
ARKANSAS	513	530	485	486	−0	9	−3
CALIFORNIA	3,725	4,191	4089	4930	−17	2	−11
COLORADO	482	480	591	625	−5	−19	0
CONNECTICUT	260	281	404	520	−22	−30	−7
DELAWARE	122	90	98	135	−27	−8	36
DIST OF COLUMBIA	48	60	58	38	53	3	−20
FLORIDA	2,199	2,218	2415	2519	−4	−8	−1
GEORGIA	1,185	1,226	1157	1348	−14	6	−3
HAWAII	121	119	133	167	−20	−11	2
IDAHO	210	221	231	287	−20	−4	−5
ILLINOIS	1,251	1,289	1379	1776	−22	−7	−3
INDIANA	811	903	876	1029	−15	3	−10
IOWA	393	423	437	541	−19	−3	−7
KANSAS	338	350	361	506	−29	−3	−3
KENTUCKY	718	722	690	746	−8	5	−1
LOUISIANA	766	777	836	1080	−23	−7	−1
MAINE	180	180	198	236	−16	−9	0
MARYLAND	586	629	607	682	−11	4	−7
MASSACHUSETTS	458	510	605	813	−26	−16	−10
MICHIGAN	1,186	1,275	1192	1561	−24	7	−7
MINNESOTA	499	469	498	742	−33	−6	6
MISSISSIPPI	549	593	626	603	4	−5	−7
MISSOURI	877	906	810	1025	−21	12	−3
MONTANA	170	172	253	276	−8	−32	−1
NEBRASKA	227	242	221	337	−34	10	−6
NEVADA	227	260	220	302	−27	18	−13
NEW HAMPSHIRE	112	134	166	175	−5	−19	−16
NEW JERSEY	705	738	866	1022	−15	−15	−4
NEW MEXICO	397	422	467	513	−9	−10	−6
NEW YORK	1,698	1,828	1918	2374	−19	−5	−7
NORTH CAROLINA	1,123	1,213	1083	1327	−18	12	−7
NORTH DAKOTA	80	86	105	133	−21	−18	−7
OHIO	1,260	1,451	1416	1805	−22	2	−13
OKLAHOMA	537	550	720	820	−12	−24	−2
OREGON	421	424	485	585	−17	−13	−1
PENNSYLVANIA	1,377	1,510	1544	1882	−18	−2	−9
RHODE ISLAND	73	84	96	118	−19	−13	−13
SOUTH CAROLINA	709	789	739	747	−1	7	−10
SOUTH DAKOTA	144	130	147	188	−22	−12	11
TENNESSEE	1,019	1,002	919	1007	−9	9	2
TEXAS	2,676	2,697	3328	3814	−13	−19	−1
UTAH	236	229	253	291	−13	−9	3
VERMONT	85	100	87	125	−30	15	−15
VIRGINIA	764	840	803	938	−14	5	−9
WASHINGTON	600	602	628	847	−26	−4	−0
WEST VIRGINIA	367	372	379	464	−18	−2	−1
WISCONSIN	579	677	648	847	−23	4	−14
WYOMING	100	104	152	205	−26	−32	−4
U.S. TOTAL	34,837	36,895	37,976	45,284	−16	−3	−6

* Preliminary Estimates

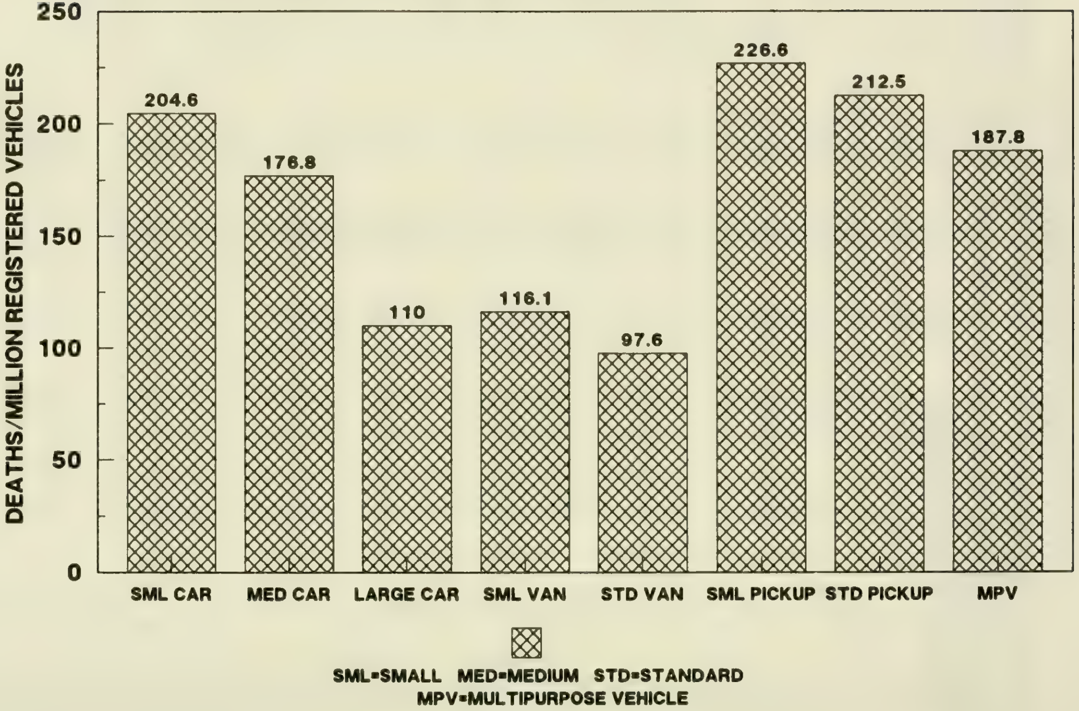
OCCUPANT DEATHS BY VEHICLE CLASS DATA

Mr. CARR. Please update the bar chart shown on page 679 of last year's hearing record concerning occupant deaths by vehicle class by providing data for 1991.

[The information follows:]

OCCUPANT DEATHS (1991)

FOR EVERY MILLION REGISTERED VEHICLES



STATE SURVEY RESULTS

Mr. CARR. For the record, please provide the state-by-state results of the state surveys conducted in 1992.

[The information follows:]

SAFETY BELT USE RATES AS OF DECEMBER 1992

Alabama	58%
Alaska	66%
Arizona	73%
Arkansas	55%
California	70%
Colorado	50%
Connecticut	71%
Delaware	70%
Dist. of Columbia	59%
Florida	57%
Georgia	51%
Hawaii	83%
Idaho	53%
Illinois	65%
Indiana	56%
Iowa	71%
Kansas	70%
Kentucky	41%
Louisiana	47%
Maine	36%
Maryland	75%
Massachusetts	31%
Michigan	54%
Minnesota	53%
Mississippi	24%
Missouri	70%
Montana	71%
Nebraska	33%
Nevada	63%
New Hampshire	50%
New Jersey	68%
New Mexico	66%
New York	69%
North Carolina	70%
North Dakota	30%
Ohio	58%
Oklahoma	44%
Oregon	72%
Pennsylvania	63%
Rhode Island	32%
South Carolina	53%
South Dakota	42%
Tennessee	58%
Texas	69%
Utah	50%
Vermont	47%
Virginia	72%
Washington	73%
West Virginia	34%
Wisconsin	59%
Wyoming	N/A
Puerto Rico	66%

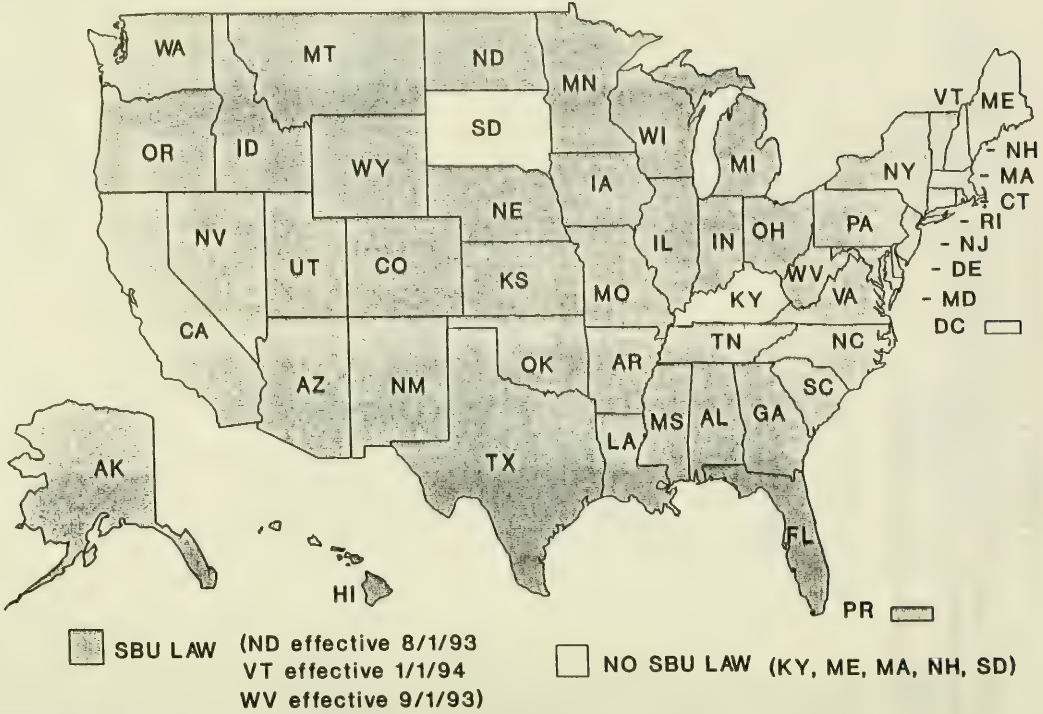
STATES WITH MANDATORY BELT USE LAWS

Mr. Carr. Please also update the U.S. map on page 763 of last year's hearing record showing the states with mandatory belt use laws.

[The information follows:]

SAFETY BELT USE LAWS

(45 States plus D.C. and Puerto Rico)



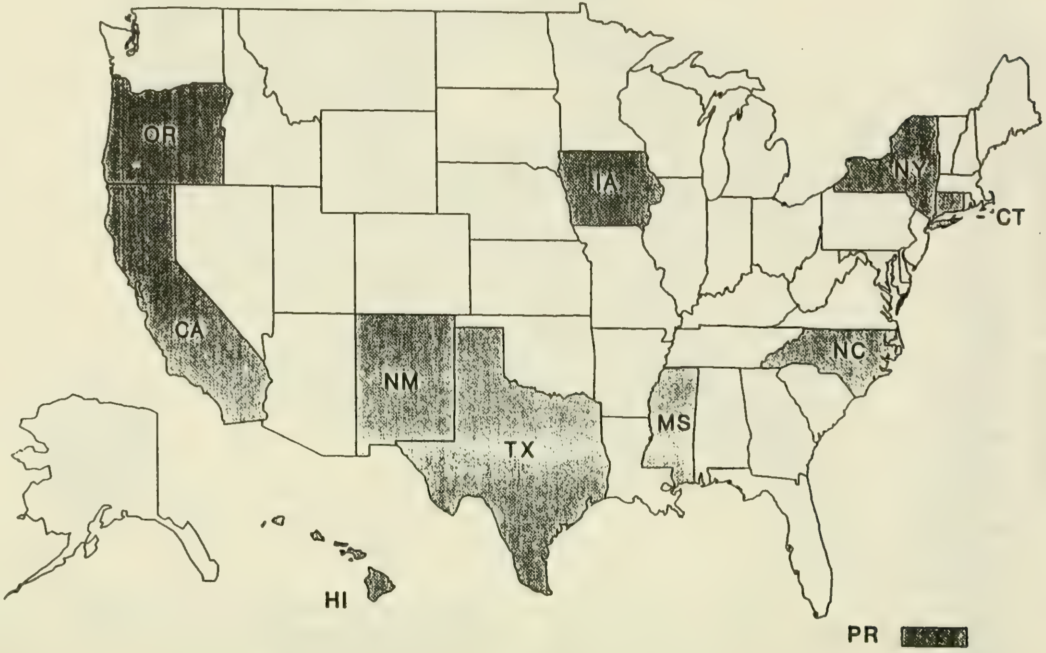
STATES WITH PRIMARY BELT USE LAWS

Mr. Carr. Please also update the map on page 765 of last year's hearing record showing the States with primary belt use laws.

[The information follows:]

STATES WITH PRIMARY BELT USE LAWS

(10 States plus Puerto Rico)

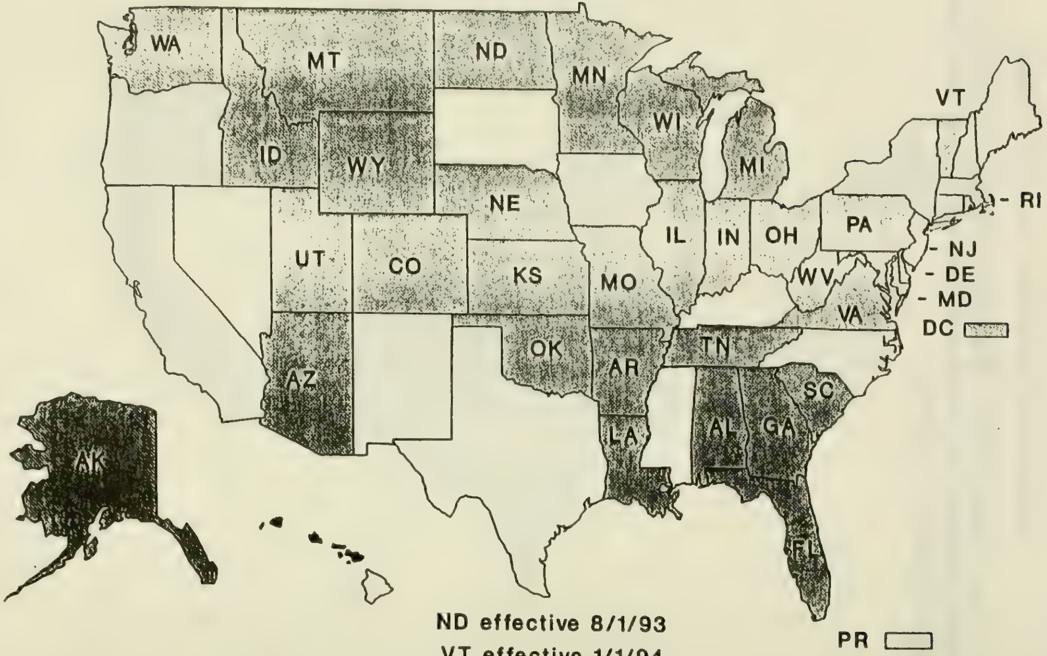


STATES WITH SECONDARY BELT USE LAWS

Mr. Carr. Please update the map on page 767 of last year's hearing record showing the states with secondary belt use laws.

[The information follows:]

STATES WITH SECONDARY BELT USE LAWS
(35 States plus D.C.)



ND effective 8/1/93
VT effective 1/1/94
WV effective 9/1/93

STATES THAT PROPOSED, BUT DID NOT ENACT, BELT USE LAWS

Mr. Carr. Please also provide a summary, similar to the discussion on page 769 of last year's hearing record, of those states in which legislation was proposed but not enacted during 1991, which would have provided for mandatory safety belt use or would have strengthened existing belt use laws.

[The information follows:]

The States of Kentucky, Massachusetts, South Dakota, Vermont and West Virginia proposed legislation to provide for a mandatory safety belt use law, but were not enacted. Also, Colorado, Florida, Louisiana, Michigan, Oklahoma, Pennsylvania, Rhode Island, South Carolina, Tennessee, Utah, and Wisconsin proposed legislation to change the enforcement level from a secondary offense to a primary offense, but were not enacted.

BELT USAGE AND CITATIONS IN STATE BELT USE LAWS

Mr. Carr. Please update for the record the data on usage in belt law states and safety belt violations written per 100,000 population, as shown on pages 770–771 of last year's hearing record, by adding data for 1991 and dropping 1988.

[The information follows:]

SAFETY BELT USAGE IN LAW STATES

State	1989 (%)	1990 (%)	1991 (%)	1992 (%)
AL	*	*	53	58
AK	45**	*	66	66
AZ	49**	*	65	73
AR	*	34**	52	55
CA	66	67	71	70
CO	47	50	51	50
CT	50	59	61	71
DE	*	*	42**	70
DC	49	49	49	59
FL	55	*	60	57
GA	39	41	54	51
HI	78	81	85	83
ID	34	35	45	53
IL	41	48	51	65
IN	47	47	52	56
IA	59	61	68	71
KS	52	58	64	70
LA	41	39	37	47
MD	67	*	72	75
MI	46	51	64	54
MN	44	47	52	53
MS	*	*	32	24
MO	*	54	64	70
MT	63	64	67	71
NE	*	*	*	33**
NV	38	*	64	63
NJ	44	50	58	68
NM	65	59	67	66
NY	60	*	68	69
NC	62	*	60	70
ND	*	*	*	30**
OH	44	41	50	58
OK	36	37	37	44
OR	*	*	70	72
PA	50	*	60	63
PR	*	*	63	66
RI	*	*	28	32
SC	38	54	60	53
TN	41	43	51	58
TX	61	68	68	69
UT	44	39	45	50
VA	55	54	58	72
WA	55	*	69	73
WV	*	*	*	34**
WI	50	52	58	59
WY	35	26	66	*

*	Data Not Available
**	Law Not In Effect

SAFETY BELT LAW VIOLATION TICKETS/CITATIONS WRITTEN BY YEAR
(Per 100,000 Population)

State	1989	1990	1991	1992
Alabama	*	[1] 130	[1] 173	**56
Alaska	*	**47	369	499
Arizona	*	0	954	838
Arkansas	*	*	**219	733
California	2284	2465	2331	1819
Colorado	223	418	566	618
Connecticut	253	117	233	82
Delaware	*	136	[1] 190	1018
Dist.Of Col.	159	299	656	757
Florida	388	396	615	***
Georgia	25	34	[1] 59	178
Hawaii	3261	2908	2913	2491
Idaho	674	946	1018	772
Illinois	318	312	462	471
Indiana	355	449	702	778
Iowa	1867	2001	***	2543
Kansas	526	707	659	1747
Kentucky	*	*	*	[1] 25
Louisiana	466	307	313	278
Maine	*	*	*	[1] 98
Maryland	955	1123	2637	2231
Massachusetts	*	*	*	[1] 69
Michigan	579	711	478	567
Minnesota	672	625	613	527
Mississippi	*	**1	[1] 2	25
Missouri	436	653	1007	838
Montana	1330	1813	1960	1994
Nebraska	*	*	*	[1] 56
Nevada	370	831	1103	146
New Hampshire	*	*	*	[2] 110
New Jersey	416	490	549	647
New Mexico	1031	1429	1205	1109
New York	179	201	225	207
North Carolina	1288	1688	1949	2155
North Dakota	*	166	160	316
Ohio	1227	1152	1737	1849

Oklahoma	351	479	522	528
Oregon	*	**123	486	663
Pennsylvania	31	25	33	58
Puerto Rico	***	***	5076	5457
Rhode Island	*	*	*	376
South Carolina	***	1312	1461	1817
South Dakota	*	*	*	[1] 162
Tennessee	21	[1] 165	[1] 147	83
Texas	981	925	867	572
Utah	732	968	1465	1529
Vermont	*	*	*	[1] 19
Virginia	216	947	1027	1201
Washington	281	770	983	1027
West Virginia	*	[1] 136	[1] 196	[1] 164
Wisconsin	163	492	485	1362
Wyoming	***	[1] 49	[1] 48	54

1989-91 Population data provided by FHWA; 1992 population data from FARS report.
State Police / Highway Patrol citation data collected by NHTSA

*	No law that year
**	New law. Data only for a partial year
***	No data available
[1]	Child restraint only
[2]	Includes local agencies

SAFETY BELT TICKETS AND VIOLATIONS BY VMT

Mr. CARR. Please update the data from belt use law states on safety belt tickets and citations by vehicle miles traveled, as shown on page 773 of last year's hearing record.

[The information follows:]

SAFETY BELT LAW VIOLATION TICKETS/CITATIONS WRITTEN BY YEAR
By Vehicle Miles of Travel (Millions)

State	1989	1990	1991	1992
Alabama	*	[1] 0.12	[1] 0.17	**0.05
Alaska	*	**0.06	0.51	0.71
Arizona	*	0.00	0.99	0.90
Arkansas	*	*	**0.25	0.79
California	2.64	2.83	2.68	2.14
Colorado	0.27	0.51	0.69	0.75
Connecticut	0.31	0.15	0.29	0.10
Delaware	*	0.14	[1] 0.19	1.03
Dist.Of Col.	0.28	0.53	1.17	1.32
Florida	0.45	0.47	0.72	***
Georgia	0.02	0.03	[1] 0.05	0.16
Hawaii	4.68	3.99	4.00	3.47
Idaho	0.81	0.97	1.04	0.78
Illinois	0.46	0.43	0.63	0.64
Indiana	0.35	0.46	0.72	0.80
Iowa	2.35	2.42	0.00	3.09
Kansas	0.6	0.77	0.71	1.88
Kentucky	*	*	*	[1] 0.03
Louisiana	0.66	0.34	0.35	0.34
Maine	*	*	*	[1] 0.10
Maryland	1.15	1.32	3.11	2.62
Massachusetts	*	*	*	[1] 0.09
Michigan	0.67	0.81	0.55	0.65
Minnesota	0.78	0.70	0.69	0.59
Mississippi	*	**	***	0.03
Missouri	0.47	0.66	1.01	0.85
Montana	1.3	1.74	1.88	1.94
Nebraska	*	*	*	[1] 0.06
Nevada	0.44	0.98	1.30	0.18
New Hampshire	*	*	*	[2] 0.12
New Jersey	0.51	0.64	0.72	0.85
New Mexico	0.99	1.34	1.13	1.02
New York	0.3	0.34	0.38	0.35
North Carolina	1.39	1.78	2.06	2.24
North Dakota	*	0.18	0.17	0.34
Ohio	1.65	1.44	2.17	2.17
Oklahoma	0.34	0.46	0.50	0.49
Oregon	*	**0.13	0.52	0.75
Pennsylvania	0.04	0.04	0.05	0.08
Puerto Rico	***	***	13.90	14.95
Rhode Island	*	*	*	0.53
South Carolina	***	1.33	1.48	1.88
South Dakota	*	*	*	[1] 0.17
Tennessee	0.02	[1] 0.17	[1] 0.15	0.09
Texas	1.04	0.97	0.91	0.62
Utah	0.9	1.14	1.72	1.76
Vermont	*	*	*	[1] 0.02
Virginia	0.22	0.97	1.06	1.24
Washington	0.24	0.84	1.07	1.11
West Virginia	*	[1] 0.16	[1] 0.23	[1] 0.18
Wisconsin	0.18	0.54	0.54	1.48
Wyoming	***	[1] 0.04	[1] 0.04	[1] 0.04

1989-92 vehicle miles of travel provided by FHWA
State Police / Highway Patrol citation data collected by NHTSA

* No law that year
** New law. Data only for a partial year
*** No data available
[1] Child restraint only
[2] Includes local agencies

STATES WITH PRIMARY, SECONDARY, OR NO BELT USE LAWS

Mr. Carr. For the record, please provide a listing showing which states have primary belt use laws, which have secondary laws, and which have no law at all.

[The information follows:]

Primary Safety Belt Use Laws/Fines:

California	$20
Connecticut	$37
Hawaii	$20
Iowa	$10
Mississippi	$ 0
New Mexico	$25
New York	$50
North Carolina	$25
Oregon	$50
Puerto Rico	$10
Texas	$25

Total: 10 + P.R.

States with no laws:

Kentucky
Maine
Massachusetts
New Hampshire
South Dakota

Total: 5

Secondary Safety Belt Use Laws/Fines:

Alabama	$25
Alaska	$15
Arizona	$10
Arkansas	$25
Colorado	$10
Delaware	$20
Dist. of Col.	$15
Florida	$20
Georgia	$15
Idaho	$5
Illinois	$25
Indiana	$25
Kansas	$10
Louisiana	$25
Maryland	$25
Michigan	$25
Minnesota	$25
Missouri	$10
Montana	$20
Nebraska	$25
Nevada	$25
New Jersey	$20
North Dakota	$20
Ohio	$20
Oklahoma	$10
Pennsylvania	$10
Rhode Island	$0
South Carolina	$10
Tennessee	$25
Utah	$10
Vermont	$25
Virginia	$25
Washington	$25
West Virginia	$25
Wisconsin	$10
Wyoming	$0

Total: 35 + D.C.

RECENT DRUGGED DRIVING TRENDS

Mr. Carr. Recent studies have shown that drug use among certain populations is down. What are the recent trends regarding drugged driving?

[The information follows:]

The agency does not collect comprehensive driver drug usage data on a routine basis. However, a recent agency-sponsored study collected fatal crash data from 13 sites from around the country in order to determine the incidence of specific drugs in fatally injured drivers. The results showed an overall drug incidence rate of approximately 18 percent. In about two-thirds of these cases alcohol was also present. In the remaining one-third the drug was present alone or in combination with other drugs. The most frequently occurring drugs found were marijuana, cocaine, tranquilizers, and amphetamines. These findings are generally consistent with other drug crash studies carried out over the last ten years.

STATES WITH SUSPENSION/REVOCATION LAWS FOR DRUG CONVICTIONS

Mr. Carr. How many states have passed legislation requiring the suspension or revocation of a driver's license for a drug conviction?

[The information follows:]

To date, 6 States have passed such legislation and submitted it for DOT's official review. These States are Florida, Mississippi, Virginia, Wisconsin, District of Columbia, and Puerto Rico. At this date, Virginia and Wisconsin laws have been determined acceptable to meet Federal requirements and avoid withholding of Federal highway funds. The other submittals are currently under review.

Seventeen State legislatures have passed resolutions opposing enactment of such laws and submitted them for official review. All of these have been officially accepted as satisfying the Federal requirements.

RESULTS OF DEC STUDY

Mr. Carr. NHTSA has awarded a contract to evaluate the impact of the Drug Evaluation and Classification Program (DEC) on the number of arrests and convictions of driving under the influence of controlled substances. Do the initial results of this analysis justify the federal investment in DEC?

[The information follows:]

Driving under the influence of drugs is a highway safety problem requiring national attention. The issue is more complex than driving under the influence of alcohol: many different drugs impair, they exhibit different signs and symptoms, and there is no simple test for drug presence analogous to the alcohol breath tests. As a result, federal leadership and funding are necessary.

NHTSA's DEC program took the procedures and protocols developed in Los Angeles, standardized them, and implemented them in communities across the nation. The initial evaluation results above that the DEC program was successfully implemented in each site studied. Trained Drug Recognition Experts (DREs) successfully identified and charged drugged drivers. Most DRE opinions that a driver was under the influence of one or more drugs were confirmed by chemical tests. Most drivers arrested and charged for driving under the influence of drugs were convicted. NHTSA's investment has been worthwhile.

However, the evaluation also showed that arrests for driving under the influence of drugs in the study sites were well below the national rate of drug involvement in fatal crashes. This suggests that the DEC procedures can be improved. NHTSA's DEC request for fiscal year 1994 includes funding for research on methods to improve the detection of drugged drivers and for research on ways to improve and simplify DEC examination procedures. These will make DEC more efficient in removing drugged drivers from our highways and in improving traffic safety.

DEC STUDY SUMMARY

Mr. Carr. Please provide for the record a comprehensive summary of the study's findings.

[The information follows:]

This study compared impaired driving arrest and conviction data from 11 law enforcement agencies before and after they implemented the DEC program and from 9 State-matched agencies which had not adopted the DEC program during the time frame of the study.

The results of the study showed that prior to the DEC program there were few, if any, drivers being arrested and convicted on drug impaired driving charges. However, after implementation of the DEC program drugged driving arrests and convictions increased in the study sites while there were no comparable increases in the comparison communities. As might have been expected, DRE evaluations represented a small percentage (average 2%) of all impaired driving arrests, tended to peak early in the program at about 3–4 percent, and then decline to about 1.5 percent.

The percentage of impaired driving suspects "not booked" (a relatively small number in the sites where these data were available) decreased approximately 33% after implementation of the DEC program. These were almost always suspects with low BACs who often had used drugs other than alcohol.

Overall, 65% of the drivers suspected of being under the influence of drugs were convicted on an impaired driving charge. Conviction rates were higher when the laboratory test confirmed the presence of drugs (88%), compared with guilty findings in 53% of the cases where no drugs were found by the laboratory. Comparable conviction rates for the alcohol-impaired drivers in these sites ranged from approximately 80% to 90%. Conviction rates for non-DRE evaluated low BAC cases were about 40%.

Implementation of the DEC program was not associated with any consistent changes in the total number of impaired driving arrests, average BAC of those arrested, or conviction rates for low BAC cases. However, it was readily apparent that absent the DEC program, few, if any, of the drug impaired drivers evaluated by the DREs would have been arrested or convicted.

In summary, in the six sites where the DEC program was implemented and adjudication data available, the DREs successfully, identified and charged drugged drivers, the drugs were confirmed by toxicology tests in most of the drivers, and most of the drivers were convicted.

DEC 12-STEP DRUG EVALUATION UPDATE

Mr. CARR. Please provide for the record an update on the joint NHTSA/NIDA evaluation of the 12-step drug evaluation process used in the DEC program.

[The information follows:]

The Joint NHTSA/NIDA study actually encompasses nine of the twelve steps employed by drug recognition experts (DREs) to diagnose drug impairment in a motorist arrested for drugged driving. There is no "interview of the arresting officer" (Step 2), and no "interrogation of the suspect" (Step 10). In addition, the "preliminary examination" (Step 3) is truncated, in that it does not include the preliminary interview of the suspect for admission of drug or medicine ingestion. Thus, the study focuses on the ability of a DRE to diagnose drug impairment when he or she is restricted to employing the clinical and psychophysical indicators of the drug categories, and is denied acccess to observations or confessions of drug use by the suspect.

The study is proceeding in stages. Each stage involves different drugs and drug combinations, as well as placebo conditions. At each stage, participating DREs have no prior information about the drugs actually administered to volunteer subjects, but are told that they can expect to encounter alcohol, any of five drug categories (Cannabis, Depressants, Narcotics, Phencyclidine, or Stimulants), or any combination of those categories and/or alcohol.

Stage One was completed in April, 1993. Data are being processed in preparation for analysis, and results are not yet available. Stage Two will commence during the Summer. Stage Three will follow completion of Stage Two. The study is expected to conclude in June 1994.

REDUCING NHTSA'S DEC INVOLVEMENT

Mr. CARR. DEC is respected by the law enforcement community and has been called a proven success. In your June 1992 report, NHTSA stated that you proposed to transfer as much as possible of the program's management responsibilities to the states and others, and as quickly as possible. Yet, in your latest Priority Plan you project that the States will only gradually take responsibility for delivery of training and other elements of program expansion. NHTSA has been discussing this transfer for years. Have you made any progress since last year?

[The information follows:]

Currently there are 24 states and the District of Columbia participating in the DEC program. Each of the DEC states now has in place a State DEC Coordinator who manages the program training and expansion at the state level. After the initial site criterion is met in each new state the responsibility for future site assessment and expansion rests with the state. The International Association of Chiefs of Police (IACP) through its membership has established a comprehensive set of national standards for the DEC program which includes: certification of DREs and instructors; guidelines for program site assessment and expansion; and curricula review.

Eleven states are self-sufficient in terms of having an instructor cadre capable of supporting training and expansion within their respective states. Ten states have one or more instructors but continue to need outside assistance for training. Four states are new to the program and have no instructors. Ten states that are self-sufficient provide training instructors through agency cooperative agreements to the states that lack the instructors necessary to train officers in the DEC program. The maturation process in most states averages around 2½ years. The agency continues to assist in the states with support and technical assistance proportionally depending upon a state's individual needs.

DEC FUNDING INCREASE

Mr. Carr. You are requesting $4.0 million for DEC in fiscal year 1994, an increase of $1.2 million above the current fiscal year. Why do you believe that a 43 percent increase in program funding is justified?

[The information follows:]

The additional funds will support accelerated research efforts to achieve DEC program improvements. The need for these improvements surfaced in several recent studies, that disclosed the following facts:

Although drugs other than alcohol are found in a substantial proportion of fatally-injured drivers (18%), the contribution of drugs to crash causation is unclear. Additional research is needed to determine the characteristics of the drugged driving problem so that efforts to combat the problem can be more effectively targeted.

At DEC program sites, drug impaired drivers account for fewer than two percent of all impaired driving arrests. This is well below the rate of drug involvement in fatal crashes, suggesting that many drug-impaired drivers are evading apprehension. Additional research is needed to improve the *detection* of drugged driving suspects.

In approximately one out of four cases where a drug recognition expert (DRE) concludes that a suspect is drug impaired, chemical tests do not corroborate the DRE's judgment as to the type of drug present. Additional research into the examination process is needed to improve program accuracy.

The increased funds requested for fiscal year 1994 will be applied in the three areas outlined above. The funds will permit acceleration of the research effort, with special emphasis on development of improved DRE investigation methods, including protocols for effectively interviewing suspects.

EXPANSION OF DEC

Mr. Carr. Your justifications indicate that you plan to expand the program in fiscal year 1994 to 27 states. When do you expect to transfer most of the DEC responsibilities, with the exception of monitoring and oversight, to the states?

[The information follows:]

Responsibility for managing the DEC program is fully transferred to a state when it reaches program maturity and has a self-sufficient cadre of instructors. The maturation process for most new states to reach self-sufficiency averages around 2½ years. The twelve states that have yet to obtain this level of development are at varying stages of program maturity and will continue to need training support and technical assistance to fully develop their programs. All current (and two projected) developing DEC states should reach program maturity within the 2½ year time frame.

There are currently 11 additional states that meet the legislative criteria for participation in the DEC program. Several of these states have shown interest in future program participation.

STATES WITH FULL RESPONSIBILITY OF DEC

Mr. CARR. What states have taken on full responsibility for operating the DEC program?

[The information follows:]

The following states have full responsibility for their DEC programs: Arizona, California, Colorado, Indiana, Maine, Minnesota, Maryland, New York, Texas, Utah, and Virginia.

DEC: PARTICIPATING STATES

Mr. CARR. Please provide for the record a list of the 24 states currently participating in DEC as well as the states which you plan to add in fiscal year 1994, in similar format to the list found on page 937 of last year's hearing record.

[The information follows:]

The program is active in 24 States and the District of Columbia, representing approximately 250 jurisdictions with 2,700 nationally certified DREs, including 550 instructors.

DEC States: Arizona, Arkansas, California, Colorado, District of Columbia, Florida, Georgia, Indiana, Iowa, Louisiana, Maine, Maryland, Minnesota, Missouri, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, Oklahoma, Rhode Island, Texas, Utah, and Virginia.

State-wide law enforcement agencies are involved in all but 4 of the above States. Military and Tribal police are participating in several States.

Delaware and Idaho are actively pursuing participation in the DEC program and should be operational by the end of 1993.

The following additional States meet the Legislative criteria for DEC program participation: Illinois, Kansas, Kentucky, Michigan, North Dakota, Ohio, Pennsylvania, South Carolina, Vermont, Wisconsin, and Wyoming.

DEC: NEW STATES

Mr. CARR. What are the criteria for selecting new states to participate in DEC?

[The information follows:]

The following is a listing of the criteria for participation in the DEC program:

States must have an implied consent law that allows for the test sample to be analyzed for concentrations of drugs and/or alcohol and that these chemical tests are selected by the officer. The consent applies to multiple (dual evidential) tests for blood, breath, or urine.

Program must be focused on a community basis, in a well-defined area which is manageable in terms of processing suspects and centralized prosecution to assist in the introduction of the program into the criminal justice system.

Endorsements from the state governor's highway safety agency; commanding officer of each participating agency; administrative judge of the court having jurisdiction over DUI cases; the chief prosecuting attorney, government toxicologists and others that may be involved with funding support for the program.

Significant levels of driving while intoxicated cases (DWI) and a known drug problem.

Law enforcement agencies must support the Standardized Field Sobriety Testing (SFST) training techniques by training 80% of their traffic law enforcement officers in the technique. The SFST is the foundation for the DEC program and all candidates for the program must be proficient in the techniques.

Participating agencies must have access to a centralized booking facility for DWI arrests; use evidential breath test instruments that immediately give BAC levels; provide adequate facilities for conducting the DEC evaluations; and maintain a management information system for records keeping functions.

DEC: TRANSFERRING RESPONSIBILITY

Mr. CARR. How does your pilot program to transfer responsibility for managing the DEC training program to one region differ from your previous practices?

[The information follows:]

Prior to the establishment of the pilot the agency managed the DEC program from Washington, D.C. The agency's technical support and all related training functions were centralized and independent of the regions and the states. Each training site was directly managed by an agency representative, who spent considerable time in the field insuring the program curricula and general standards where being adhered to. Program marketing and expansion was carried out at the headquarters level. To effectively transfer the program to all states, it was necessary to develop a plan that would prepare them for full program responsibility and give them the direct support and technical assistance.

A key element in the institutionalization of the DEC program is the implementation of regionalized technical support and training coordination to more directly assist the States with their own State DEC Program. Under the pilot program, the regional DEC coordinator is able to work closely with each of the States in Regions I, II, and III to coordinate all DEC implementation activities. The focus of these activities will be to solve technical problems that come up and to assist the States in reaching self-sufficient status.

As the States' DEC resources develop, the agency's direct involvement is reduced proportionally, allowing the States to gradually assume full responsibility for the management and expansion of the DEC program within their boundaries. Likewise, the DEC regional coordinators will concentrate their efforts on programs that have a less than self-sufficient cadre of instructors.

DEC: EVALUATION RESULTS

Mr. CARR. When do you expect to have the results of your evaluation of this pilot program?

[The information follows:]

The pilot program to establish a regionalized approach to implementing the DEC program has been found to be successful. Through the pilot program, the Regional office has been able to provide more direct and timely technical assistance to the DEC States in Regions I, II, and III. There has been better communication among the States in these Regions and improved communications between these States and the agency. Resources and technology has been shared among the States which has generated renewed interest in the program, especially among States that have not yet participated in the program. Finally, the regional coordinator has been able to provide support and technical assistance to the States in other related areas such as DWI enforcement.

The agency is in the process of duplicating this effort in two more regions to directly assist the states by providing a more consistent level of support and technical assistance to enhance the institutionalization of the DEC program.

SECTION 402 FUNDS USED FOR FHWA PROGRAMS

Mr. CARR. In 1991, the Inspector General reported that Section 402 highway safety grant funds were being used by the states to fund planning and administrative costs for the FHWA programs. What actions has NTSHA taken to ensure that grantees comply with regulations that prohibit the use of NHTSA funds for FWHA program overhead?

[The information follows:]

In August 1991, NHTSA sent a memorandum to all the NHTSA Regional Administrators informing them that the Office of Inspector General had reported this as a problem. The Regional Administrators were directed to have their program staff review the activities of States in their Regions to insure Planning and Administration costs were being appropriately charged to both NHTSA and FHWA, when applicable.

STATE HIGHWAY SAFETY GRANT PROGRAM IMPROVEMENTS

Mr. CARR. What other actions are you taking to improve your financial management and programmatic oversight of the state highway safety grant programs?

[The information follows:]

The creation of the Office of Regional Operations has provided a focal point for developing, updating, and implementing uniform policies and procedures for NHTSA grant management in the Regions.

Recent improvements in financial management and oversight include:

Expanded NHTSA's Financial Management training course and required all NHTSA Regional staff to take it. The revised course has also been offered to State highway safety staff.

Included presentation from the Inspector General's Office on financial management responsibilities at NHTSA's meeting of all Regional staff.

Refined NHTSA's Program Management course and developed a new Project Management course; both now include heavy emphasis on financial management.

With the introduction of the new Section 153 and Section 410 incentive programs, developed standard procedures and policies to smoothly implement these programs within the States.

Reviewed all NHTSA orders that govern the management of the grant programs, then deleted and updated them as necessary to provide consistent management direction to the field.

Developing a computerized system for electronically transferring State accounting data to the NHTSA Regions, then to NHTSA Headquarters. Currently this same information is being processed manually and mailed, often causing delays and errors.

DRINKING AND DRIVING SURVEY PLANS

Mr. CARR. NHTSA plans to initiate a national survey to assess progress in changing driver attitudes about drinking and driving. Why is such a survey needed and what amount is budgeted in fiscal year 1994 to support the survey?

[The information follows:]

Many programs have been implemented over the years to convince drivers that drinking and driving is unsafe, and to change their drinking and driving behavior. This project is one in a series of assessments of driver attitudes and behavior designed to provide NHTSA with an indication of how these attitudes and behavior have changed over the years, what programs are most responsible for these changes, and the degree to which additional work needs to be done before drivers and the general public consider driving after drinking to be unacceptable. Such information can be used by the agency to focus development of new programs designed to modify attitudes that enable or encourage drinking and driving. $74,000 of FY94 funds are budgeted for this effort.

USE OF DRIVER EDUCATION FOR THWARTING DRINKING AND DRIVING

Mr. CARR. Has NHTSA done any work on the effectiveness of driver education as a means of educating young people on the hazards of drinking and driving?

[The information follows:]

Yes. All current driver education programs of which the Agency is aware contain information on alcohol and the hazards of drinking and driving. For those students who receive a quality driver education program, the majority do learn about the hazards, as demonstrated by scores on knowledge examinations. However, increased knowledge is not significantly related to reductions of alcohol-related crashes of 16 and 17 year old drivers.

HIGHWAY SAFETY INFORMATION MANAGEMENT SYSTEM PROSPECT

Mr. Carr. Last year, $500,000 was appropriated for a highway safety information management system project in North Carolina. Please provide an update on the status of this project.

[The information follows:]

North Carolina has submitted its project proposal which is being reviewed by the Agency. It should be approved within the next few months.

North Carolina will use project funding to merge accident data with roadway, bridge, pavement, and emergency medical data; improve the accuracy of accident locations through the use of global positioning system (GPS) technology; and convert outdated computer software systems to newer database management systems.

MODEL ACCIDENT RECORD SYSTEM

Mr. Carr. Last year, $1.0 million was appropriated for a model accident record system in New Jersey. Please give us an update on the status of this project.

[The information follows:]

New Jersey has discussed its plans with the Agency and is currently developing its project proposal. The Agency expects to receive the proposal shortly and to approve it within the next few months.

New Jersey's model system will create computerized accident files at the police agency level. The files will use digitized mapping to record accident locations accurately. Accident data on file will be accessible immediately by local and state users.

New Jersey will develop a software package for local and state users to retrieve and analyze data from the files. After the demonstration, this software will be to other states and local agencies at no cost.

RECORDS AND LICENSING FUNDING INCREASE

Mr. Carr. Excluding funds appropriated last year for the highway safety information system project and the model accident record system, funding in fiscal year 1994 for records and licensing activities would increase by $1.0 million over a base funding level of $240,000. Why is such a large increase warranted?

[The information follows:]

The majority of the increase, $700,000, would go to support traffic records implementation grants. These grants will be used to help States identify what system upgrades will be required to meet the Safety Management Systems requirements for linked data systems and to implement the CADRE data elements. The funds can also be used to develop specific plans for full-scale implementation of the necessary upgrades, and to provide the training necessary for a successful system upgrade. The Agency believes that this type of implementation support is needed to assist States plan for the major system upgrades that will be required through Safety Management Systems.

A second new initiative will be a major demonstration of an improved older driver licensing program which will provide training to license examiners in screening license renewal applicants to determine who may need more thorough reexaminations, including road tests, medical exams, and knowledge tests. The purpose of this program is to enable license bureaus to maximize the driver's and the public's safety and mobility.

STATE CANDIDATES FOR TRAFFIC RECORDS GRANTS

Mr. Carr. What states are potential candidates for traffic records grants in fiscal year 1994, and what criteria will be used to select grantees?

[The information follows:]

Any State that is seriously contemplating a traffic records system upgrade to comply with Safety Management System requirements and to implement CADRE elements is a potential candidate for the traffic records implementation grants.

The Agency will be looking for good geographical representation in the grant awards, as well as variety in how the records system is structured within State government. Applicants will be asked to demonstrate commitments from the involved State agencies that they will work together to link their data systems and take whatever steps are necessary to make them compatible and accessible.

STATE TRAFFIC RECORDS

Mr. CARR. What payoffs can be expected from an expanded federal investment in state traffic records?

[The information follows:]

State traffic records systems are the foundation of sound highway safety programs at the State and community level. At the national level, NHTSA's vehicle and highway safety research programs draw on State crash data for problem identification and program evaluation efforts.

States report that they are several years behind in recording crash data which undermines their problem identification and evaluation efforts. At the national level, questions on such issues as the relationship between BAC level and crash injury severity, and the effectiveness of safety belt laws on reducing medical care costs cannot be answered because of the inability to link State crash data with trauma and hospital discharge data.

An expanded federal investment in state traffic records will improve the Agency's ability to conduct more thorough and sophisticated analyses of the effectiveness of vehicle and highway safety initiatives. It will also yield improvements in State and local problem identification and facilitate State-level program evaluation efforts.

CRASHWORTHINESS/CRASH AVOIDANCE EFFECTIVENESS

Mr. CARR. You are requesting $12.5 million for crashworthiness research in fiscal year 1994. Some observers believe, however, that we are reaching diminishing returns in improving the ability of vehicles better to withstand crashes, and that the bigger payoff is in the area of collision avoidance through research on human factors and driver performance. What is your view of where the biggest gains lie?

[The information follows:]

While preventing a crash altogether provides the ultimate countermeasure for occupant protection, the agency feels that a balanced program of crashworthiness and crash avoidance is the prudent course to follow for overall highway safety. While significance gains have been achieved in reducing fatalities and injuries, much work remains to be accomplished. For example, even after air bags have been installed in all passenger cars and light trucks and vans, the agency estimates that up to 10 thousand fatalities could occur each year in frontal crashes. The research effort is focusing on improving occupant protection in higher severity crashes, particularly those in which injuries are resulting from occupant compartment intrusion. Likewise, in rollover crashes, significant gains could be realized by preventing occupant ejection from the vehicle. In this effort, research is focusing on preventing ejection through open doors by improving latches and through the window areas by investigating improved glazing materials. At this point, the agency feels that much remains to be accomplished before the point of diminishing returns will be reached and believe that the balanced program will achieve the best overall reduction in highway casualties.

FISCAL YEAR PRIORITY PLAN

Mr. CARR. How does your fiscal year 1994 research budget request support the fiscal year 1994 Priority Plan developed by NHTSA?

[The information follows:]

The research required by the NHTSA's Priority Plan is fully supported by the fiscal year 1994 research budget request.

In the Office of Crashworthiness Research, the budget for safety systems and biomechanics research fully supports the priority programs for improved frontal crash protection, side impact protection, rollover protection, reduction of head injuries, door retention components, truck rear underride protection, fuel system integrity, and child passenger safety. In these programs, the efforts are focused on defining the safety problem, developing test procedures and devices, developing injury criteria and associated evaluation devices, evaluating baseline vehicle performance, developing mitigation concepts, and evaluating the developed countermeasures.

The FY 1994 budget request for the Office of Crash Avoidance Research supports three major areas in the NHTSA Priority Plan. The heavy vehicle research program supports the agency's heavy truck safety rulemaking initiatives. This program focuses on safety-related vehicle design and performance issues, including improved handling and braking, truck occupant protection and crashworthiness, and reduced truck aggressivity in crashes with smaller vehicles. The National Advanced Driving Simulator (NADS) will develop a critical research capable of simulating realistic vehicle/driver interactions and environments, thereby allowing the conduct of driver-vehicle interaction experiments in crash-imminent situations that cannot be carried out today because they would place subjects in potentially hazardous situations. The IVHS program is directed at facilitating development and early deployment by industry of intelligent vehicle systems to aid drivers in avoiding crashes and at ensuring nonloss of safety as these systems are incorporated into motor vehicles.

The budget for the National Center for Statistics and Analysis also supports the programs contained in the Priority Plan. Specifically, FARS, NASS Crashworthiness Data System and General Estimate System, State Data Files, and Special Accident Investigations are used extensively in the crashworthiness and crash avoidance efforts for defining safety problems, providing detailed investigations which contain unique and essential data for describing injuries, injury causation mechanisms, details on precrash vehicle movement, and detailed information on the driver and other passengers. These data sets also are used for the agency's behavioral programs identified in the Priority Plan such as safety belt use, impaired driving, and Emergency Medical Services activities. The budget is used not only for maintaining and adding to these files, but also for improving and making these data more useful in the aforementioned programs and behavioral activities in the agency.

IVHS-RELATED FUNDING

Mr. CARR. In fiscal year 1993, approximately $2.0 million for NHTSA's IVHS-related work is included in FHWA accounts. Another $7.0 million is in the NHTSA account. How are you using the $2.0 million?

[The information follows:]

The $2 million for NHTSA included in FHWA's budget has been transferred to NHTSA via an interagency agreement and is being used to support the agency's role of ensuring the system safety of IVHS initiatives. It funds NHTVA's participation in the safety evaluation of TravTek (a system which provides in-vehicle navigation and route selection assistance to drivers) and Greyhound/VORAD (a system which provides Greyhound bus drivers with information about distance and closing rate between vehicles) and supports the Volpe National Transportation Systems Center which is providing support to NHTSA regarding the evaluation of Departmental operational tests.

IVHS: FIVE-PART STRATEGY

Mr. CARR. Your research plan for IVHS describes a five-part strategy to facilitate the development and implementation of safe IVHS technologies. Please describe how these strategies will get us from our knowledge base today to the development of safe and effective commercialization by the industry?

[The information follows:]

The NHTSA IVHS program is structured to provide the research tools and driver/vehicle characteristics data bases, system performance specifications, and in-service evaluations needed to assist industry in developing their collision products and in determining that they are ready for the marketplace. The NHTSA strategy is to carry out research and development programs which complement industrial product development while representing the public interest.

The agency will analyze existing accident data bases to clearly define the crash avoidance needs posed by the operation of conventional vehicles. The focus here will be the identification of pre-crash circumstances associated with various crash modes and the identification of critical driving hazards (Identify Promising Crash Avoidance Opportunities). The NHTSA strategy also includes development and acquisition of research tools needed to acquire basic vehicle motion and driver performance baseline data to augment accident data bases. These data are needed to verify the performance and user-friendliness of prototype and final product designs (Build Research Tools and Compile Knowledge Base). The willingness of industry to develop products is related to availability of performance specifications. "Demonstrating-Proof-of-Concept for Crash Avoidance and Mitigation" is the process whereby solution concepts for specific collision avoidance technologies are identified followed by demonstrations of technical feasibility, operational practically, and cost effectiveness. The performance guidelines for crash avoidance technologies developed in this program will serve as the basis for evaluating safety impact and as product design targets for industry. Once products are available, the agency will work with the industry to demonstrate performance, reliability, driver acceptance and assess costs associated with the most promising designs in real-world operating situations. Such testing will ensure that the products are ready for the marketplace (Facilitate Development of Crash Avoidance Products Toward Commercialization). By "Assessing the Safety of Other IVHS Concepts," the agency will ensure that no loss of safety occurs as these products are incorporated into motor vehicles.

IVHS: IMPROVING EMS RESPONSE TIMES

Mr. CARR. NHTSA has explored the possibility of using IVHS technologies to improve Emergency Medical Service response times. Please update us on your work in this area.

[The information follows:]

An important component of the time required for crash victims to receive medical attention is the delay between occurrence of a collision and notification of an emergency medical services (EMS) dispatcher. These delays can be especially long, with consequent impact on likelihood of recovery, in rural areas will low traffic density and limited communications facilities. Several evolving IVHS technologies hold the promise of being able to eliminate this notification delay. NHTSA is exploring the feasibility of using IVHS technologies such as advanced crash sensors and state-of-the-art communication systems to improve EMS response times. The program consists of two phases. First is a contract to investigate sensors and communication technologies which need further study and development before an operational test can be carried out effectively. The results of this study will be publicly available for use by all interested parties. In the second phase, NHTSA plans to invite potential partners to work with the Department in an operational test which can demonstrate proof-of-concept for notification systems and identify and address any institutional issues which might hinder deployment.

TRAVTECH SYSTEM EVALUATION

Mr. CARR. What is the status of the evaluation of the TravTech system in which NHTSA is participating? When do you anticipate having the results of this evaluation?

[The information follows:]

The data collection phase of the TravTek operational test was completed on March 31, 1993. The contract for analysis of extensive set of data extends through March 1994. A final report on the results and analysis will be available prior to the end of the contract.

IVHS: DETAILED BREAKDOWN OF ACTIVITIES

Mr. CARR. For the record, please provide a detailed breakdown of your IVHS activities for fiscal years 1992 and 1993, and estimated for fiscal year 1994. Please also provide corresponding funding amounts and contractors for each activity.

[The information follows:]

A detailed breakdown of activities during FY 1992 and 1993 is shown in the attached table.

For awarded contracts and interagency agreements, the contractor is identified and the FY 1992 and/or FY 1993 funding is shown. For projects where contract award is expected in FY 1993 either the budgeted FY 1993 funding is shown (where contract negotiations are nearly complete) or an asterisk appears (where funding amounts are still procurement sensitive).

Because all anticipated contract awards could not be made by the end of FY 1992, $2,950,000 of budgeted funds were carried over to FY 1993.

In addition to contractor support, in-house DOT and NHTSAS organizations provide significant support to the agency's IVHS program. The Volpe National Trasnportation Systems Center is providing support in the areas of technology assessment, analysis of crash causal factors, and safety evaluations. The Vehicle Research and Test Center is providing support in the areas of full scale testing, evaluation of IVHS hardware, and computer modeling.

The majority of the FY 1994 IVHS budget will provide out-year funding for the projects listed in the attached table. Additionally, an operational test of a communications systems for automatically summoning emergency medical services following a crash, and for providing precise data on crash location, will be initiated in FY 1994. Also, safety evaluation of additional operational tests will be initiated as will NHTSA's initial work on evaluating the safety impact of the automated highway vehicle prototype.

	FY'92	FY'93
1. Portable Data Acquisition System for Crash Avoidance Research (Oak Ridge National Laboratory)	225	371
2. Quantitative Characterization of Vehicle Motion Environment (University of Michigan Transportation Research Institute)	400	1000
3. Instrumented Testbed Vehicle		*
4. Crash Avoidance and the Older Driver (Battelle/Catholic University)		125
5. Vehicle Cues and Feedback Needed by Drivers (University of Michigan Transportation Research Institute)		150
6. In-Vehicle Crash Avoidance Warning Systems: Human Factors Consideration (COMSIS Inc.)	300	112
7. Driver Workload Assessment (Battelle)	300	250
8. Driver Visibility Requirements (KETRON)	270	65
9. Performance Specifications: Countermeasures Against Lane Change, Merging, and Backing Collisions (Interagency Agreement with U.S. Air Force).		1200
10. Performance Specifications: Countermeasures Against Rear-End Collisions		1400
11. Performance Specifications: Countermeasures Against Intersection Collision		1400
12. Performance Specifications: Countermeasures Against Roadway Departure Collisions		*
13. Performance Specifications: Vision Enhancement Systems for Nighttime and Inclement Weather		400
14. Performance Specifications: Systems to Enhance Emergency Medical Service Response (Interagency Agreement with U.S. Navy)		300
15. Safety Evaluation of the TravTek Operational Test (Science Applications International Corporation)		200
16. Safety Evaluation of the ADVANCE Operational Test		500
17. Safety Evaluation of the TravelAid Operational Test (Washington State Transportation Center)	250	
18. Support for Problem Definition and Operational Test Evaluation (Battelle/CALSPAN)	592	1000
19. Cooperative Agreement to Foster the Development Evaluation and Deployment of Collision Avoidance Systems		300
20. Cooperative Agreement to Assess IVHS-Induced Electromagnetic Radiation Hazard		100
21. IVHS America Workshop on Collision Avoidance		*
22. Standardized Driving Simulation Tasks and Scenarios (Interagency Agreement with University Iowa)		400
23. IVHS-IDEA (Transportation Research Board)		500

NADS: CONTRACTS AWARDS

Mr. CARR. Have any contracts been awarded for system engineering, design and fabrication, software development, or computer support for the National Advanced Driving Simulator? Please provide details including to whom and for what amounts.

[The information follows:]

No contracts have been awarded for NADS system engineering, design and fabrication, software development, or computer support. The draft Request for Proposal for NADS development has been issued for comment.

NADS: TSARC MEMORADUM

Mr. CARR. Please provide for the record a copy of the TSARC memorandum approving the National Advanced Driving Simulator.

[The information follows:]

U.S. Department of Transportation
Office of the Secretary of Transportation

Memorandum

Subject **ACTION:** Key Decision Point #2 for the National Advanced Driving Simulator (NADS)

Date January 12, 1993

From The Deputy Secretary

Reply to Attn of

To Marion C. Blakey
National Highway Traffic Safety Administrator

Key Decision Point (KDP) #2 is approved. National Highway Traffic Safety Administration (NHTSA) should request approval for KDP #3, full scale development, upon completion of the following exit criteria:

- Conduct system design review;
- Conduct preliminary design review;
- Approve NADS development specification;
- Approve NADS program management plan;
- Approve software development plan;
- Approve integrated test plan;
- Approve NADS internal interface documentation;
- Approve NADS facility (building) interface documentation; and,
- Secure the non-DOT share, as evidenced by letters of commitment.

KDP #3 must be obtained before phase two of the NADS may be authorized. NHTSA may not award the fabrication contract prior to the Department's acceptance of the non-DOT share, i.e., donations.

The Acquisition Plan (AP) for the NADS is approved with the following understandings:

- NHTSA may release the draft Request for Proposal (RFP) for industry comment;

- At least thirty days before award of the contracts for phase one of the NADS acquisition, NHTSA should provide the following information, in writing, for TSARC review and concurrence:

  - Current budget figures and projections of expenditures based upon a revalidated cost estimate for the NADS; if the University of Iowa will be adapting or refining software during phase one of the acquisition for eventual use in the NADS, the projection of expenditures should include description of the Government funding for the effort and the estimated dates that the software or software documentation is required;

  - Description of the software that will be supplied by the University;

  - Estimated value of the software to be provided by the University, and the Government and University costs associated with adapting the software for the NADS; and,

  - Description of the risk mitigation efforts for software development and integration that NHTSA plans for phase one.

A follow-up briefing to obtain TSARC concurrence may be required after review of the information above. The TSARC concurrence on the above information must be obtained before award of the phase one contracts.

The RFP and Selection Plan for the phase one of the NADS acquisition must be approved by the Director, Office of Acquisition and Grant Management before issuance of the RFP. Upon approval of the documents, the NHTSA Administrator is authorized to make the Source Selection decisions for phase one in accordance with the approved plan and the procedures included in the Transportation Acquisition Manual.

The Driving Simulator will continue as a Level II Major Acquisition in accordance with DOT 4200.14C.

- # -

NADS: ACQUISITION PLAN

Mr. Carr. Please provide for the record a copy of the approved Acquisition Plan for the National Advanced Driving Simulator.

[The information follows:]

PROCUREMENT SENSITIVE

ACQUISITION PLAN

for the

NATIONAL ADVANCED DRIVING SIMULATOR (NADS)

U. S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
OFFICE OF CRASH AVOIDANCE RESEARCH
400 Seventh Street, S.W.
Washington, D.C. 20950

DECEMBER 1992

PROCUREMENT SENSITIVE

ACQUISITION PLAN

NATIONAL ADVANCED DRIVING SIMULATOR

Concurrence:

NRD-51 ______________________________ ________
H. Keith Brewer, NADS Program Manager Date

NAD-30 ______________________________ ________
James Auten, Contracting Officer Date

NRD-50 ______________________________ ________
William A. Leasure, Director, Office Date
of Crash Avoidance Research

NRD-01 ______________________________ ________
George L. Parker, Associate Administrator Date
for Research & Development

NOA-03 ______________________________ ________
Howard M. Smolkin, Executive Director Date

Approval:

NOA-01 ______________________________ ________
Marion C. Blakey, Administrator Date

FOREWORD

This Acquisition Plan describes NHTSA's strategy to achieve the National Advanced Driving Simulator (NADS) acquisition objective in an economical, effective, and efficient manner. The plan includes the funding requirements for the design, development, and integration of the simulator, as well as known procurement and schedule constraints. This plan will be updated as necessary as the program progresses.

NADS ACQUISITION PLAN

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NADS ACQUISITION PLAN

1.0 INTRODUCTION

This Acquisition Plan is for the procurement of the National Advanced Driving Simulator (NADS). Under Department of Transportation procurement guidelines, the NADS development is classified as a major Research and Development System Acquisition since its development cost is estimated to exceed $20 million. The plan has been prepared by the NADS Program Office within NHTSA's Office of Crash Avoidance Research. It represents the collective efforts of individuals with significant areas of responsibility in NHTSA's Office of Contracts and Procurement, Office of Chief Counsel, Office of Plans and Programs, and the Office of Research and Development. This document outlines NHTSA's strategy for achieving the NADS acquisition objective in an economical, effective, and efficient manner and has been prepared in accordance with the guidelines outlined in the Federal Acquisition Regulation (FAR), part 7. The plan includes the funding requirements for the design, development, and integration of the NADS as well as known procurement schedule constraints. The plan will be updated as necessary as the program progresses.

2.0 ACQUISITION BACKGROUND AND OBJECTIVES

2.1 DESCRIPTION OF NADS

The NADS is intended to be a "world class" driving simulator utilizing the latest technology in high fidelity simulation. It's development will exploit America's leadership in this technology domain, which has been derived from advanced military and aerospace programs conducted over the past three decades. The Department of Transportation is developing NADS to meet the recognized need for a **national transportation research facility** to conduct driver behavioral research. Fundamental research conducted on the NADS to understand the complex interaction between the driver, the vehicle, and the roadway environment during crash situations will provide the scientific basis for developing countermeasures to reduce the injury and fatality rates on the nation's highways.

As a national facility, the NADS must be accessible to the widest possible spectrum of researchers from both the public and private sectors. To assure this broad access, the Department of Transportation will locate the NADS at the University of Iowa in Iowa City. The selection of Iowa as the host university represented the culmination of a nationwide competitive process among major U.S. research institutions which judged the scientific and organizational merit as well as cost sharing considerations. The University of Iowa will be responsible for the daily operation, maintenance, and long term upgrading of the NADS facility. A Cooperative Agreement has been developed between the NHTSA and the University of Iowa which will define the relationship between the Government and the host university and their respective responsibilities during the development and operational phases of the NADS.

The major functional elements of the NADS are: (1) the computer image generator, (2) real time vehicle computational dynamics hardware and software, and (3) the motion platform and its control system. The NADS will take advantage of the significant advancements in each of these major enabling technologies that have occurred since the introduction of the Daimler-Benz driving simulator in 1985. Computer image generators with photo-based texturing will provide near photographic quality images of the driving scene as well as the ability to simulate large numbers of moving vehicles in the surrounding traffic stream. In addition to the large frontal field of view, both left, right, and the center mounted rearview mirror visual images will also be provided. Extremely high speed parallel processing computer modules embedded in the image system will also assure that these scenes will be generated effectively in real time. The advances in general multi-body computational dynamics software and parallel processing computer hardware will allow the NADS to model the simulated vehicle with high fidelity, including all chassis, suspension, tire, and drive train dynamics. Lastly, the NADS will utilize a large driving plane (X-Y) excursion motion platform with continuous yaw rotation to provide the high fidelity acceleration and rotational cues that are essential for simulating critical driving situations. The important high frequency road vibrational cues will also be provided by means of a series of secondary motion actuators attached between the primary motion platform and the vehicle chassis.

2.2 STATEMENT OF NEED

2.2.1 BACKGROUND

The principal objective of the NADS is to support a **National Research Program** that will result in safety improvements in the transportation system through reduced crash rates, improved vehicle design, increased roadway efficiency, and expanded mobility for special populations such as elderly and handicapped drivers. Realistic high fidelity simulation will provide researchers across the nation with the ability to: (1) examine hazardous situations in great detail that simply cannot be safely evaluated in field test conditions, (2) exactly replicate conditions for a large number of subjects thereby enabling a genuine assessment of the role of human factors in traffic safety, (3) acquire, for the first, time accurate measures of human response and control during critical crash situations, and (4) exercise precise experimental control of environmental conditions (ice, snow, fog, etc.), vehicle characteristics, and human characteristics. Research projects will focus on the complex interactions among the vehicle, the driver, and the highway environment by means of multivariate experiments that involve operator-in-the-loop driver performance during critical driving situations. At present, there is no driving simulator which provides for "real-time," high fidelity, motion based vehicle driving simulation in the United States. Research activities conducted by NHTSA and related Federal and State government agencies are constrained by the lack of this available resource. The DOT formally acknowledged this need by the approval of the "Mission Need Statement for the National Advanced Driving Simulator" by the Deputy Secretary of Transportation on March 11, 1991.

2.2.2 TECHNICAL AND CONTRACTUAL HISTORY

During the past two years, the NADS Project Office has undertaken a number of contractual studies as part of the planning process for the NADS acquisition. These studies have concentrated on the following four critical issues: (1) the technical and economic feasibility of the NADS concept, (2) conceptual design configurations for the NADS, (3) the potential public and private sector user base and their simulation requirements, and (4) resolving engineering questions to minimize the technical risk in the NADS development. The following sections describe these preliminary planning/research activities in greater detail.

2.2.2.1 NADS FEASIBILITY STUDY

In February, 1989, NHTSA awarded a research grant, through the National Science Foundation, to the University of Iowa's Center for Simulation and Design Optimization, to conduct a technical and economic feasibility study for the development of an advanced driving simulator. This project also preliminarily evaluated the potential user base for the simulator and developed a conceptual design and a preliminary set of engineering specifications for the facility. A study team was assembled at the University of Iowa consisting of industrial and academic experts in the fields of computer image generation, motion platform design and control, parallel processing computers, systems integration, human factors engineering, real time vehicle dynamics simulation, and a variety of other related disciplines. One of the fundamental objectives of the study group was to examine all of the major technical and operational issues associated with developing a high fidelity driving simulator. As a result of this year long activity, the study group concluded that all of the enabling technologies for an advanced driving simulator were substantially in place and that there were no technical barriers to its development. A preliminary conceptual design for the simulator also emerged from this project, along with preliminary specifications for all of the major systems. The estimated development, construction, and operational costs for the simulator were also determined. The results of this analysis are documented in technical report number DOT HS 807 596, "Feasibility Study and Conceptual Design of a National Advanced Driving Simulator," published in March 1990.

2.2.2.2 APPLICATIONS/REQUIREMENTS STUDIES

Following the feasibility study, NHTSA decided to conduct a more comprehensive assessment of the potential user base for the NADS. The objective of this assessment was to identify the specific NADS users by organization, and to define their research requirements for driving simulation. To conduct this study NHTSA awarded dual source contracts to Systems Technology Inc. and Dynamic Research Inc., both of whom have extensive experience in driving simulation and highway safety research. Research needs/user applications were identified through a series of detailed interviews and focus group discussions with potential users. From these a set of simulator functional requirements was formulated which are necessary to accommodate the proposed applications. Cost/performance tradeoff studies were also conducted to evaluate the benefits of various levels of simulation fidelity and their impact of total system costs. Lastly, a series of specific research problem statements were formulated pertaining to high priority applications in human factors, highway engineering, traffic safety, Intelligent Vehicle Highway Systems (IVHS), and motor vehicle development issues. More than 70 potential user organizations were contacted in these studies, including automobile and truck manufacturers, component suppliers, tire and rubber companies, state motor vehicle administrations, state police agencies, medical and health science research organizations, and state and federal highway and traffic safety agencies. The final reports submitted from both contractors concluded that there was a substantial potential customer base for the NADS, and that to accomplish the majority of the priority safety related research identified, a high fidelity driving simulator was required. The results of this work are documented in the following technical reports: "National Advanced Driving Simulator Requirements Study", DOT-HS-807-826, and DOT-HS-807-827.

2.2.2.3 TRANSPORTATION RESEARCH BOARD STUDY

In addition to the Government funded requirements studies mentioned above, NHTSA also requested the Transportation Research Board (TRB) to conduct an independent evaluation of potential NADS research applications and corresponding simulator requirements. The TRB is a unit of the National Research Council, which serves as an independent advisor to the Federal government on scientific and technical questions of national importance. The National Research Council, jointly administered by the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine, brings the resources of the entire scientific and technical community to bear on national problems through its volunteer advisory committees.

This study was performed by the TRB's Committee A3B06, "Simulation and Measurement of Vehicle and Operator Performance," which is composed of simulation oriented R&D professionals from a wide spectrum of government, academic, and industrial organizations. NHTSA and FHWA personnel recused themselves from participating in this study, so as not to bias the results with data based on NADS program advocacy. This committee contacted more than 100 potential users of the NADS facility including researchers from federal, state, and local governments, foreign governments (Canada, Netherlands, Sweden, German), university researchers, private researchers, simulator manufacturers, and automobile manufacturers. It identified 54 major research areas that would benefit significantly from the availability of a NADS facility. Of these, 38 or approximately 70 per cent require either a high fidelity image system, a high fidelity motion system, or both. Thus, the committee concluded that "A simulator capable of accomplishing each of the 54 identified utilizations would be a maximum fidelity simulator." The results of the TRB Committee's analysis are contained in Transportation Research Circular Number 388, February 1992, ISSN 0097-8515, "Simulator Technology - Analysis of Applicability To Motor Vehicle Travel".

2.2.2.4 NADS MOTION BASE CONCEPT VALIDATION

A unique feature of the NADS is the utilization of a large excursion motion base platform to provide high fidelity acceleration cues to the driver during critical crash imminent situations. Since there is little experience with this type of motion system in driving simulators, NHTSA considered it essential to thoroughly validate this motion concept prior to committing to this configuration. This validation was designed to minimize the technical risk of the NADS motion base system development.

The objective of the Motion Base Concept Validation project was to subjectively compare the ability of a large excursion motion platform (30 by 90 feet for NADS), with a limited excursion motion platform such as is currently used on the Daimler-Benz Simulator (3 by 3 feet), to produce realistic acceleration cues in braking and cornering maneuvers. To accomplish this objective, NHTSA conducted a collaborative research project with the Flight Systems and Simulation Research Laboratory at the NASA Ames Research Center, Moffett Field, CA. This laboratory has the world's only large excursion flight simulator which could be reconfigured into a NADS type driving simulator. The longitudinal excursion of this simulator is limited to 40 feet, however, which placed some restrictions on the degree of braking acceleration that could be used.

Using this reconfigured flight simulator, a test program was carried out at NASA Ames during December, 1991. An international panel of driving simulator experts served as subjects to evaluate the motion cuing provided by the reconfigured NASA simulator. This panel was comprised of engineers from domestic and foreign vehicle manufacturers who had first hand experience in operating the Daimler-Benz Driving Simulator, including the motion system engineer from Daimler-Benz. The unanimous conclusion of this expert panel was that the large excursion motion cues provided by NADS are essential for simulating high severity maneuvers experienced in crash avoidance situations. The results of this study are documented in the NASA Report, "A Demonstration of Motion Base Design Alternatives for the National Advanced Driving Simulator," March 1991.

2.2.2.5 MOTION ENVELOPE AND DRIVE ALGORITHM STUDY

In order to provide maximum simulator fidelity, the proposed NADS will move the cab of the simulated vehicle in such a way that realistic motion cues are provided to the driver. To accomplish this, the NADS will have a six degree of freedom motion base capable of large excursions. As is standard practice in motion base simulators, "washout algorithms" will be used which allow for simulated vehicle motions that exceed the capabilities of the motion platform while maintaining good driver "feel" (i.e., the physical and mental sensations of driving the simulator must be close to those experienced when driving the actual vehicle).

The NADS Motion Envelope and Drive Algorithm Study, completed in December, 1992, was conducted jointly by NHTSA's Vehicle Research and Test Center (VRTC), and the

University of Toronto. One objective of this study was to develop a linear washout algorithm that could be used in the NADS motion control system. In addition, software was developed to perform positive limiting of the NADS motion base hardware. A substantial number of vehicles/maneuvers, at different severity levels, were evaluated using vehicle dynamics off line simulations. Using the results of these simulations, the required motion base capabilities of the NADS to simulate each maneuver were determined. Results from different vehicles and maneuvers were combined to determine the NADS overall motion envelope requirement.

2.2.2.6 HOST UNIVERSITY SITE SELECTION

The National Science Foundation (NSF) was engaged to assist NHTSA in conducting a national competition to identify qualified universities to host the NADS. The proposals from candidate institutions were evaluated in a multi-step, peer-review process following the established procedures for the NSF's Engineering Research Centers Program. The site selection took into account the university's scientific resources and experience, operational plan, long range strategic plan, as well as commitment to cost sharing and other factors explained in the Project Solicitation. On July 23, 1991, Secretary Skinner was briefed on the results of the NSF's evaluation of the applications submitted by interested universities and on August 29, 1991 he released the results of this evaluation to the Congress. The Secretary made the final selection on November 26, 1991. On January 16, 1992, the NHTSA issued a Press Release announcing that the University of Iowa had been chosen as the host institution for the NADS.

A Cooperative Agreement has been developed between NHTSA and the University of Iowa which defines the relationship and respective responsibilities during the Design Competition, System Development and Operational Support phases of the NADS development. The Cooperative Agreement also provides the mechanism for the exchange and transfer of funding, property, and services. The NHTSA will initiate Cooperative Project Orders to reimburse the University of Iowa for NADS-specific tasks during design, fabrication, and system integration of NADS. At the conclusion of successful Installation Certification of NADS, the University of Iowa will operate the NADS facility with NHTSA retaining title in accordance with Senate budget markup guidance.

2.2.3 ACQUISITION STRATEGY

The design, fabrication, and system integration of NADS will be acquired through a Federal procurement using negotiated procedures involving full and open competition. The procurement will be accomplished in accordance with the provisions of DOT Transportation Acquisition Manual (TAM), Subchapter 1215.6, Source Selection. NHTSA has implemented the following procurement strategy:

> The acquisition of the NADS will occur in two phases: Phase I - Design Competition and Phase II - System Development and Operational Support. NHTSA will select at least

two contractors from those that respond to the Request for Proposal. After Design Competition, NHTSA will down select to a single Prime Contractor to perform System Development, with a year of Operational Support to be provided at the NADS Research Facility located at the University of Iowa, Iowa City, Iowa.

During Phase I, the Contractor will perform Design Competition tasks for NADS on a fixed price basis. The Design Competition products will be used by NHTSA to down select between the competitive design proposals. During Phase II, the selected Prime Contractor will enter into a negotiated cost reimbursable contract for System Development and Operational Support. This contract transition will be conducted in using proven contract methodology.

The results of Phase I will be a documented and supportable NADS system design. The NADS system design (hardware, software and firmware) will be evaluated against the requirements stated in the Functional Specification Document. The NADS system design is required to be balanced in terms of performance, producibility, operability, supportability, affordability and schedule. NHTSA will conduct a System Design Review to show the adequacy of implemented System Engineering, System Design, Test and Evaluation and Program Management processes. NHTSA will conduct a Preliminary Design Review to evaluate a definitized system design, a program plan and plans for test and integration to accomplish Installation Certification. The final product of Design Competition will be a technical and business management proposal, including a proposed Statement of Work for the conduct of Phase II - System Development and Operational Support.

This approach enables the NHTSA to acquire a cost effective NADS system that balances performance, operability, supportability, producibility, affordability and schedule goals. NHTSA intends to execute a program driven by a comprehensive risk management philosophy.

2.3 APPLICABLE CONDITIONS

2.3.1 REQUIREMENTS FOR COMPATIBILITY

The NADS will have limited requirements in the area of system compatibility with other simulators. In fact, it is likely that NADS itself will become the industry standard with which future driving simulators must be compatible. A "user friendly," modular design approach will be followed in developing the simulator. This environment will allow researchers from any organization to use their own proprietary hardware and software in conducting specific research programs. Similarly, standard or generic visual and vehicle dynamics computer models will be provided for those users whose research applications are not roadway or vehicle dependent. Likewise, the NADS will provide a variety of interchangeable generic vehicle cabs so that research can be performed which is contingent on vehicle type or class. The NADS facility will also incorporate quick disconnect data acquisition and control systems for customers choosing to use their own prototype or proprietary vehicles. Data acquisition, storage, retrieval and security must conform to standard industry practices.

2.3.2 CONSTRAINTS

2.3.2.1 COST CONSTRAINTS

Cost estimates derived in the NADS feasibility study have indicated that the design and construction of the NADS, including the building to house it, will require approximately $32 million. The DOT will provide two-thirds of the funding with approximately $11 million expected from other sources. Nearly half of this amount has been already pledged by the University of Iowa and the State of Iowa. The balance of the cost sharing funds will be solicited from non-DOT sources.

2.3.2.2 SCHEDULING CONSTRAINTS

The schedule for accomplishing the NADS development is presented in Section 3.18, "MILESTONES FOR THE NADS ACQUISITION".

2.3.2.3 PERFORMANCE CONSTRAINTS

The constraints on the performance of NADS are derived directly from the intended research mission. In general, this mission is to conduct fundamental research into the relationship among the driver, the vehicle, and the environment, which will lead to improved highway safety. While there are many other potential applications for the NADS, such as new car development, Intelligent Vehicle Highway Systems (IVHS) research, driver training research, etc., it is the safety and human factors mission that fundamentally defines the NADS performance envelope. This is because crash situations invariably involve loss of vehicle control or operation at the limit of adhesion between the vehicle and the roadway. In this regime, large vehicle accelerations and fast vehicle response are the primary characteristics that must be simulated. To adequately simulate this class of vehicle behavior requires a large excursion motion system and extremely fast visual image generator and computational vehicle dynamics hardware and software.

2.4 COST

As previously discussed, the estimated cost for the NADS design and construction, including a dedicated new building to house the facility, is approximately $32 million. Cost estimates have also been made in the feasibility study for annual operating expenses and periodic upgrading. However, these latter expenses are to be borne by the NADS host university under the terms of the Cooperative Agreement. Consequently, the NADS procurement will be made on the basis of a modified Life Cycle Cost concept wherein the only significant cost that will accrue to the government will be the development and related acquisition costs of the actual Advanced Driving Simulator. The specific cost estimates for the major elements of the NADS development are discussed in the addendum to this plan and are summarized as follows:

System Engineering and Integration	$ 4.0	million
Motion Subsystem	$ 6.5	million
Visual and Audio Subsystem	$ 12.5	million
Dynamic Simulation Subsystem	$ 5.5	million
Building and Facilities	$ 3.5	million
NADS Cost	$ 32.0	million
Other Direct Costs	$ 4.488	million
Total	$ 36.488	million

2.5 CAPABILITY OR PERFORMANCE

As a result of the analyses conducted in the NADS feasibility study, the applications/requirements studies, and the TRB study, the functional requirements for the NADS have been defined in the Functional Specification Document. These are discussed in the following descriptions of the major systems expected to comprise the NADS.

2.5.1 MOTION SYSTEM REQUIREMENTS

In order to simulate crash imminent situations involving possible loss of control, the NADS motion system must provide for full six degree-of-freedom motion of the simulated vehicle. These include the three rotations, roll, pitch, and yaw and the three translations, longitudinal, lateral, and vertical. In addition, the motion system must have the capability of simulating sustained lateral accelerations associated with hard cornering, sustained longitudinal acceleration associated with severe braking, and continuous yaw rotation associated with motor vehicle spin out and articulated truck jackknifing. To achieve the sustained acceleration requirements associated with these maneuvers the NADS motion system must have the capability for large linear excursions in both the lateral and longitudinal directions. The roll and pitch degrees of freedom must be provided for proper vehicle response, but they are not critical since their magnitudes are generally small. It is also of critical importance to provide the high frequency (up to 50 Hertz) vertical accelerations which correspond to roadway roughness and suspension excitation. These vertical vibratory motions provide the essential cues to the driver for estimating forward speed.

2.5.2 COMPUTER GENERATED IMAGE SYSTEM REQUIREMENTS

The vast majority of input information that an individual uses in the driving task is obtained visually. Consequently, in a research simulator, the visual stimuli must be presented with as much richness and fidelity as possible. The images displayed in modern simulators are generated by computers and are constructed of basic geometrical building blocks such as polygons. In order to generate scenes with rich visual detail, such as is found in a normal traffic situation, the image must be constructed of many thousands of polygons. Moreover, to provide the sensation of visual induced motion (vection), the image must be recomputed based on the instantaneous movement of the vehicle and then re-displayed with great rapidity. The image update rate must be at least 60 frames per second in order to avoid any sensation of "jerkiness" in the visual scene. The driving scene must also be presented to the simulator occupant in full color and in proper perspective and it must encompass the driver's useful field of view. Provisions must also be made for generating images in the center and outside rearview mirrors. To accomplish all of this in real time requires enormous computing power and extremely sophisticated hardware and software. At present, image generating systems with this level of power and sophistication are available only on advanced aircraft and space vehicle simulators. Therefore, the Computer Image Generator for the NADS will be a "high-end" visual system derived from advanced aerospace technology. No hardware development is anticipated for the image generation system, since it will be acquired as essentially "off the shelf equipment." Some development of computer software will be needed to provide for the efficient construction of new driving scene databases.

2.5.3 COMPUTATIONAL DYNAMICS SYSTEM REQUIREMENTS

The fidelity of any driving simulator depends predominately on the quality of the mathematical models used to represent the vehicle, the vehicle parameter data used to drive the mathematical models, and on the computer hardware and software utilized to compute the vehicle response from these models. This is because the output from the vehicle dynamics computers are the input signals to the image generator and the motion system. If these input signals are distorted, delayed, or do not represent the response of the real vehicle, then the simulator driver will receive and act on false sensory stimuli and the entire test will be invalid. It is well known in open-loop vehicle dynamics simulation (no human driver involved), that predicting vehicle response at the limit of performance, requires the most sophisticated non-linear vehicle dynamics models. This is in contrast with routine driving situations where the vehicle response can be predicted from relatively simple linear models.

Since the most fundamental application of the NADS will be simulating critical crash imminent situations, it is imperative to utilize the most sophisticated high level computer models available. Such models must accurately characterize the complex dynamics of the suspension, tires, brakes, engine, drive train, steering system, and all of the external forces that act on the vehicle. However, these complex models impose severe computational workloads for most computers, and in many instances prohibit the possibility of their use in "real time" simulation due to the computational time delay. They also place severe demands on the development of the vehicle parameter data needed to drive the models. Nonetheless, recent developments in vehicle dynamics computer software allow these complex models to be implemented on parallel processing super mini-computers. Thus, extraordinarily high speed computer processing is now available to execute the most sophisticated vehicle models without a significant time delay penalty.

The core, multi-body vehicle dynamics model and associated software currently exist at the University of Iowa and will be provided to the NHTSA as part of their cost sharing agreement. This core software consists of modules that will automatically generate the equations of motion for each body of the vehicle system, e.g., wheel mass, suspension link, chassis, etc., convert them into a form suitable for solution on parallel processing computers, and carry out the solution in real time. Some additional development of submodels that provide the force and moment input to the core model will be required. Submodels of this type, e.g., engine, drive train, brakes, etc., currently exist at the University of Iowa, but they pertain to military vehicles. The development of submodels that are suitable for passenger vehicles and commercial trucks will be carried out by Iowa under the terms of the Cooperative Agreement.

2.6 DELIVERY OR PERFORMANCE PERIOD REQUIREMENTS

The planned performance schedule for the NADS is contained in Section 3.18.

2.7 TRADE-OFFS

One of the key issues examined in the Applications/Requirements Studies was that of cost/complexity versus performance capability for the NADS. For this purpose three different levels of simulator design performance, each with different levels of technology (and thus cost), were evaluated. The three levels were: (1) a low end simulator costing $2-7 million with a $500/hr. operating cost, (2) an intermediate level simulator costing $10-20 million with a $1000/hr. operating cost, and (3) a state-of-the-art, high end simulator costing >$30 million with a $2000/hr. operating cost.

The low end driving simulator would utilize a work station type visual system with a moderate field of view (30-45 degrees). The motion system for this level simulator would employ actuators and vibrators to simulate the ride of the vehicle. This motion environment, however, would be very simplistic and would provide no tactile or vestibular motion cue feedback to the driver. The computation system for this level simulator would only accommodate very simplified vehicle dynamics models. While this type of driving simulator would be useful for limited types of testing, and perhaps training, the amount of realism and fidelity would be far below what is required to realistically replicate a real driving experience.

The intermediate level and high-end simulator would utilize the same level of computer generated image and computational dynamics systems. The visual system would require high resolution graphics with detailed texturing and a wide field of view (up to 180 degrees). The computational dynamics system for both of these levels would include sophisticated non-linear vehicle models operating in real time on parallel processing super mini-computers. The fundamental difference between the intermediate level and high level simulator would be the motion base system. The high end simulator would utilize a large excursion driving plane (X-Y) motion base with continuous yaw capability. The intermediate level simulator would utilize a limited movement hexapod motion base similar to that employed in the Daimler-Benz driving simulator. Consequently it would be restricted in its movement capability and would be limited to research applications that do not require substantial maneuvering. Examples of these types of applications include research on driver fatigue, effects of alcohol and drugs, vehicle ergonomics and controls layout, highway design and signing, and traffic control. The intermediate level device would also have a large potential for inducing simulator sickness due to the incompatibility of a high fidelity visual system and limited motion cuing. Conversely, only the high end simulator would provide the degree of fidelity and realism required to simulate critical accident situations involving severe steering and braking maneuvers, while minimizing the potential for inducing simulator sickness.

The Applications/Requirements Studies also examined the tradeoff between simulator utilization and operational cost. It is clear from this analysis that operational cost must be a primary design constraint if the NADS is to realize high utilization by organizations outside of military and government agencies. The majority of potential users surveyed considered simulator occupancy fees of \$1,000 - \$1,500 per hour to be acceptable. Therefore, a \$1,000 per hour occupancy cost will be established as a key design goal for the NADS prime contractor. It is currently believed that this goal can be achieved by minimizing operating and support personnel requirements for the NADS. This will be accomplished by efficient design of the simulator control room to minimize operating personnel, and by recent advances in driving scene database development software. This software has the potential to significantly reduce the number of manual database modeling programmers that are currently required in high performance driving simulators.

2.8 RISKS

2.8.1 TECHNICAL RISK

The primary technical risk in the development of the NADS will be the large excursion motion base platform. This motion system is necessary to provide the required high fidelity acceleration cues to the driver during critical crash avoidance maneuvers, such as high speed lane changes, extreme brake stops, and high acceleration collision avoidance. Unlike the conventional hexapod (six actuators) motion platform used in nearly all flight simulators and the Daimler-Benz Driving Simulator, there are very few examples of large linear excursion motions systems of the type being proposed for NADS. Consequently the knowledge base for the engineering design, controllability, reliability, and maintainability of a large excursion motion system is limited.

This is not to say that such systems have never been built. The most notable example of a large excursion flight simulator is the Vertical Motion Simulator (VMS) at the NASA Ames Research Center. This simulator is used to conduct flight research on vertical-take-off-and-landing aircraft and has the ability to execute large excursions in all three directions, i.e., vertical, lateral, and longitudinal. Much of the design and development experience of the VMS motion system will be directly applicable to the NADS.

The NADS motion system represents a significant engineering design challenge. As a consequence, major initiatives have been undertaken during the planning stage of the NADS to minimize this technical risk. First, the need for large excursion motions has been theoretically established in the feasibility study by experts in simulator motion system design. This need was subsequently validated experimentally in a major joint NHTSA/NASA research project described earlier in paragraph 2.2.2.4, "NADS Motion Base Concept Validation." Secondly, a project has been initiated at NHTSA's Vehicle Research and Test Center and the University of Toronto, to conduct an independent assessment of the motion envelope requirement for the NADS and to develop preliminary motion control algorithms. This effort is described in further detail under paragraph 2.2.2.5, "NADS Motion Envelope and Drive Algorithm Study." The work in Canada is being performed by Prof. Lloyd Reid, who is one of the world's leading experts in this field. Finally, the NHTSA plans to award multiple competitive engineering design contracts for the NADS. These separate and independent design contracts and subsequent critical design reviews, will focus heavily on the motion system development. This strategy is designed to insure that all of the technical issues associated with the motion system have been identified and resolved prior to beginning any hardware development.

2.8.2 SOFTWARE DEVELOPMENT

NADS will be a software-intensive system. As with any such system, the risk of completing the system development on time and on schedule cannot be ignored. The NADS development has been structured to deal with uncertainties that would contribute to cost and schedule overruns. The primary elements of the software development strategy are as follows:

Software/Hardware Interactions - The Iowa Driving Simulator (IDS) is a testbed that has proven that the required software and hardware can be integrated to accomplish driving simulation functions in real time. That is, IDS research proved that real time simulators could be built. NADS will expand on this proven technology base and add fidelity to overcome the limitations of physical capacity of the IDS to conduct the research on driving activity related to crash avoidance. NADS will also be designed to eliminate the software and hardware interactions that cause simulator sickness.

Reuseable Software - The software used in IDS will be provided to Design Competition contractors for evaluation for application to their particular design approaches. These contractors will be required to conduct functional analyses and cost and schedule trade-offs to determine the effectiveness of using software that has been developed for driving simulators. The software to be evaluated includes the Real Time Recursive Dynamics (RTRD) software, IDS core software and vehicle dynamics modules that enable the RTRD software to simulate vehicle motion. The University of Iowa software will be documented and provided at the earliest possible points in the solicitation. The contractor(s) are required to define a NADS system design that is balanced in terms of performance, producibility, operability, supportability, affordability and schedule.

Interface Control - The contractors are required to define all interfaces required for detailed design, including hardware, software and firmware. In this manner the Prime Contractor will control design through comprehensive Configuration Management. Separate Interface Control Documentation is required for interfaces internal and external to the NADS system.

Requirements Control - The Prime Contractor is directed by NHTSA-approved specifications to avoid cost escalation which occurs from the lack of sound system specifications. The Prime Contractor is required to maintain traceability of requirements and changes throughout the design, integration, testing and operational phases. The traceability tracks through the Functional Specification Document to the Development Specifications (Hardware and Software) to detailed product specifications used with vendors. These final specifications will be used for support after release to operational status.

Separate Software Development Plan - The Simulator Program Office has placed primary emphasis on the Contractors' integrated Program Management. Additionally, a strong emphasis has been placed on the software development and integration by requiring the Design Competition Contractors to submit design-specific Software Development Plan. The Software Development Plan will be supported and integrated with the Integrated Test Plan.

2.9 ACQUISITION STREAMLINING

In accordance with the guidance contained in the Transportation Acquisition Manual (TAM), Subchapter 1215.6, NHTSA intends to implement a program to streamline the NADS acquisition. Among the actions that will be taken in this regard are the following:

1. Conduct extensive precompetition briefings to industry and submit a draft RFP for industry comment.
2. Assign Agency priority to the NADS acquisition so as to avoid undue time delays in the contract award.
3. Implement a Project Office Support contract to provide specialized technical expertise to assist the Program Manager in the RFP preparation, proposal evaluation, and design reviews of the acquisition.
4. Sequester the proposal evaluation team at an off-site location.
5. Provide periodic briefings to the Source Selection Official (SSO) on the progress of the acquisition.
6. Conduct Periodic on-site reviews of the Phase I - Design Contractors by the **Design Review Team**.

3.0 PLAN OF ACTION

The acquisition strategy for the NADS is designed to simultaneously minimize the technical risk of the system development while at the same time insure that the maximum degree of competition exists. To accomplish this, multiple contracts will be awarded for Design Competition. These competitive design efforts, which will require approximately one year to complete, will then be subjected to a comprehensive review by the Design Review Team. This team will be composed of technical experts from the Department of Transportation (NHTSA, FHWA, USCG, & FAA), Department of Defense, NASA, and other government and private organizations with relevant expertise. Following this competitive design review, the contractor judged to have the overall superior design will be selected as the Prime Contractor for the NADS development and integration. The Prime Contractor will also be required to work closely with the University of Iowa who will be responsible for the NADS facility design and construction.

3.1 SOURCES

Most of the major flight simulator manufacturers have the requisite experience and expertise to be considered as the prime contractor or systems integrator for the NADS. Some of these potential prime contractors have the capability of providing one or more of the major subsystems from their own product lines, while others will have to subcontract for these subsystems. Potential prime and subcontractors for the NADS are as follows:

- **System Integration Prime Contractors**
    - AAI Corp.
    - Boeing Aerospace Corp.
    - CAE-Link Corp.
    - Flight Safety International
    - General Electric Corp.
    - Hughes Aircraft Company
    - Loral Defense Systems
    - McDonnel Douglass
    - Reflectone Inc.
    - Thomson-CSF Inc.
    - Veda Inc.
- **Subsystem Contractors**
    - Computer Generated Image System
        - Evans & Sutherland
        - General Electric Corp.
        - Rediffusion
        - Star Technologies Inc.
        - Silicon Graphics Inc.
        - Gemini Technology Corp.
    - Computational Dynamics System
        - Alliant Computer Corp.
        - Concurrent Computer Corp.
        - Digital Equipment Corp.
        - Encore Computer Corp.
        - Harris Corp.
        - Hewlett Packard
        - IBM Corp.
    - Motion Base Subsystem
        - Contraves, USA
        - McFadden Systems Inc.
        - MTS Systems Corp.
        - Franklin Research Center

There are no small or disadvantaged businesses considered to have the capability to perform as a prime contractor. The NADS solicitation will contain a Small Business and Small Disadvantaged Business Subcontracting Plan clause. The offerers, if large businesses, will be required by the clause to negotiate and establish "percentage goals for the utilization as subcontractor of small business concerns and small business concerned owned and controlled by socially and economically disadvantaged individuals," which will then be incorporated into the resultant contracts.

3.2 COMPETITION

Procurement of the NADS will be achieved through full and open competition at two distinct levels. The first level will be an industry wide competition for the preliminary Design Competition phase of the NADS. To assure the maximum number of potential offerors, possible small business participants, and/or potential interested subcontractors, the procurement will be synopsized in the Commerce Business Daily (CBD). Initially, NHTSA plans to announce in the CBD the issuance of a draft solicitation for industry comment. Respondents to the Draft RFP will form the basis for the final RFP bidders list. Upon incorporation of appropriate comments, the availability of the final RFP will be again synopsized. It is anticipated that multiple contracts will be awarded for the Design Competition phase of the NADS procurement. The second level of competition will occur between the contractors selected to conduct Design Competition. This competition will focus primarily on the quality of the proposed NADS design as well as the projected overall acquisition cost. The contractor selected as Prime Contractor for System Development will be responsible for the detailed engineering design and construction of the NADS.

3.3 SOURCE-SELECTION PROCEDURES

This acquisition will be conducted in accordance with DOT Transportation Acquisition Manual (TAM), Subchapter 1215.6, Source Selection. A Selection Plan (SP) will be developed which will set forth the approach for conducting the NADS Phase I - Design Competition source selection. A draft solicitation is planned for the second quarter FY 1993, with contract award tentatively scheduled for the fourth quarter FY 1993. In accordance with the SP, a Source Evaluation Board (SEB) will be convened to conduct proposal evaluations and to make a recommendation to the Source Selection Official (SSO). At the present time, the NADS has been designated as a Level II Acquisition with the Deputy Secretary having SSO responsibility. Proposal evaluation criteria will focus on technical factors, cost, past performance and business organization. Technical and cost factors will be given primary consideration. Evaluation factors will highlight elements critical to successful performance, thus ensuring that the offer selected will be the most realistic and provide the greatest value to the government.

3.4 CONTRACTING CONSIDERATIONS

The Mission Need Statement (MNS) justifying the NADS acquisition was approved by the Deputy Secretary on March 11, 1991, subject to additional information to be provided by NHTSA. The updated MNS containing this additional information, is being submitted in conjunction with this Acquisition Plan. In approving the MNS, the Deputy Secretary designated, for the time being, the NADS as a Level II Major Acquisition, in accordance with DOT 4200.14C. Further consideration of NHTSA's request for a Level III designation will be given upon receipt of the MNS update and the Acquisition Plan.

It has been determined by the Office of Information Resource Management (M-30) that a Delegation of Procurement Authority (DPA) from the General Services Administration (GSA) for computers and data processing hardware will be required as part of the NADS acquisition. A DPA is required because the simulator will be titled to the Federal Government.

Negotiation, rather than sealed bidding, is planned since technical and cost discussions with offerors will be necessary and cost alone will not determine award. The procurement approach involves full and open competition.

3.5 BUDGETING AND FUNDING

Annual budget estimates have been developed for the NADS acquisition and are explained in detail in the addendum to this plan. These estimates are based on information provided to NHTSA by a number of large simulator developers and they reflect the average expenditure rate for simulator projects of this magnitude.

To date, Congress has appropriated $9.751 million to the NADS program (FY90 - $2.951 million, FY91 - $1.8 million, FY92 - $5.0 million). It should be noted that Congress appropriated no funds for the project in FY 1992, since carry over funds were available to conduct the work planned for that year. The University of Iowa/State of Iowa will provide $3.25 million in cash towards the development of the NADS research facility and vehicle dynamics software valued at $2.0 million. The cash contribution from Iowa will be primarily for the design and construction of the facility building.

Neither the development of the driving simulator nor the construction and continuing operation of the research facility is to be fully funded by DOT. Secretary Skinner, in his final approval of the NADS development program, stipulated that one third of the total cost, or approximately $11 million, was to be provided from non-DOT sources.

3.6 PRODUCT DESCRIPTIONS

The NADS specifications will be written to provide for design control through the engineering baselines. For the Functional Baseline, NHTSA has prepared a Functional Specification Document that will be used in the award of the Design Competition phase contract. During Design Competition the competing contractors will provide Development Specifications as part of their proposals for System Development. The selected Prime

Contractor's Development Specification will be negotiated as part of the System Development contract and will become the Allocated Baseline. During the System Development Critical Design Review, the Prime Contractor will provide detailed fabrication specifications and drawings that will govern the manufacture and integration of the system as well as the procurement of required spares.

3.7 PRIORITIES, ALLOCATIONS, AND ALLOTMENTS

Priorities, allocations, and allotments are primarily for emergencies and National defense and are not planned to be used in the NADS Program.

3.8 CONTRACTOR VERSUS GOVERNMENT PERFORMANCE

As stated in OMB Circular A-76 and FAR 7.301, it is the policy of the Government to rely generally on commercial supplies and services while recognizing that some functions are inherently governmental and must be performed by government personnel. Where the option is available in deciding between Government performance and performance under contract, consideration should be given to relative costs. However, as recognized by 10d(4) of OMB Circular A-76, a comparative cost analysis of Government and contractor costs is not necessary where in-house performance to meet a requirement is not feasible. In-house performance to supply advanced systems such as the NADS is not considered feasible due to lack of facilities, experienced technical personnel, and the time and financial resources necessary to establish a Government capability.

3.9 MANAGEMENT INFORMATION REQUIREMENTS

The Government will receive periodic reports from contractors on program development and production. All contractors will be required to establish, maintain and use a cost/schedule control system that plans and controls costs and schedules, and measures performance. In addition to these requirements, the NADS Program Office will implement an independent computerized project management system based on commercial software, (Microsoft Project Management for Windows), to monitor costs and schedules of the project. The Prime Contractor will be required to provide the Government with cost and schedule data in a format compatible with this software.

3.10 MAKE OR BUY

The government will review the Prime Contractor's plans for making or buying critical components and subcontracted items during the Design Competition. The Government will determine if the contractor has an approved purchasing system and will evaluate the contractor's make or buy plan as part of the selection process. Make or buy decisions will be included in the trade-off studies conducted during Design Competition. This will provide NHTSA with visibility into the decision making process, especially those contractors having specific products that are relevant to the NADS design.

3.11 TEST AND EVALUATION

The Prime Contractor will be required to develop a comprehensive Integrated Test Program to verify that all of the technical specifications for the NADS have been met. This program, which will require the written approval of the NADS Project Office, will address the technical performance for the system and each major subsystem. The NADS Project Office will monitor all levels of testing at the prime contractor and subcontractor levels.

3.12 LOGISTICS CONSIDERATIONS

3.12.1 CONTRACTOR OR AGENCY SUPPORT

The University of Iowa will operate the NADS Research Facility on a self-sustaining basis by the host university. Therefore, the Government will not be directly involved in the long term logistical support of the facility. However, in order to assure a successful initialization and start-up of the NADS, the Government will make provisions within the NADS acquisition contract to provide training and maintenance support, including common spare parts, for the first year of operation. As part of this initial support, the prime contractor will also be required to institute a training program that will allow the host university personnel to assume these support requirements as soon as is feasible. All support will be conducted in accordance with the Integrated Support Concept defined in the contractor's Development Specification. The Integrated Support Concept will be approved by NHTSA as part of the award of System Development and Operational Support contract.

3.12.2 RELIABILITY, MAINTAINABILITY, AND QUALITY ASSURANCE REQUIREMENTS

The Prime Contractor will be required to establish and maintain Reliability, Maintainability and Quality Assurance requirements in conjunction with the System Engineering and System Design processes. These requirements will be defined in the Development Specification, which will be approved by NHTSA. These requirements will be incorporated in management, design, manufacturing, inspection, test and evaluation, installation, and integrated support documentation. The Prime Contractor will be required to allocate these requirements to the subsystems designed and built by subcontractors and vendors.

3.12.3 REQUIREMENTS FOR CONTRACTOR DATA AND DATA RIGHTS

The Prime Contractor will be required to provide: (1) the design data and technical specifications which identify the hardware and software configuration of the completed system, (2) all test and evaluation results, (3) maintenance manuals, (4) training course materials, (5) maintenance schematics and drawings, (6) and data required for logistics support. In addition, the systems integration prime contract will contain applicable FAR data rights clauses, thus giving NHTSA claim to use, disclose, or reproduce data developed by the contractor under the contract.

3.12.4 STANDARDIZATION CONCEPTS

Standardization concepts, including the necessity to designate certain technical equipment as "standard" will be required of the contractor. This will ensure that future purchases of replacement equipment or spares can be made from the same manufacturing source.

3.13 GOVERNMENT-FURNISHED PROPERTY

There is no Government owned property, materials, or facilities which will be furnished to the contractor in reference to the NADS acquisition. However, the University of Iowa will be required, under the terms of the cooperative agreement with NHTSA, to provide the prime contractor, at no cost, documented vehicle dynamics software which is suitable for real time simulation of passenger vehicles and articulated trucks.

3.14 GOVERNMENT-FURNISHED INFORMATION

The Government will furnish information and data pertaining to the washout algorithms generated in the NADS Motion Envelope and Drive Algorithm Study. These data will assist the NADS prime contractor in establishing the final motion system envelope design specifications.

3.15 ENVIRONMENTAL CONSIDERATIONS

The location and construction of the NADS Research Facility will be the responsibility of the University of Iowa.

3.16 SECURITY CONSIDERATIONS

The NADS acquisition will not involve any sensitive or classified information. Therefore, the security of this type of material is not relevant to this acquisition. However, the security of computer stored engineering design and test data of various NADS users, particularly vehicle manufacturers, is of crucial importance. Consequently, the NADS prime contractor will be required to design and implement a computer data security system, which is commensurate in its level of sophistication and difficulty to penetrate, as that used by the Department of Defense.

3.17 OTHER CONSIDERATIONS

3.17.1 MAN-RATING CERTIFICATION

The NADS Project Office intends to adopt the highly regarded procedures developed by the NASA Ames Flight Systems and Simulation Laboratory for the certification of operational safety or "Man Rating" of the driving simulator. These procedures are documented in the NASA Health and Safety Manual, AMM -760-1 "Man Rating of Simulators," September 19, 1980.

The goal of Man-Rating is to certify that all potential hazards have been eliminated or reduced to such an extent by safety and operating practices that the safety of personnel either occupying, riding in, operating, or maintaining a facility is not compromised. To accomplish this, an independent Man-Rating Review Board will be appointed by NHTSA. This board will be composed of experts from a variety of technical and safety related disciplines. It will be their collective responsibility to conduct a comprehensive review of all relevant simulator documentation related to operational safety. The Board will have the authority to make **mandatory recommendations** to the NADS prime contractor, the Government, and the host university for eliminating significant operating hazards. The NADS will not be permitted to operate until the Board issues an official Man-Rating Certification. This Certification may have attachments imposed by the Board that establish operating limits and other special requirements that are deemed necessary for safe operation.

3.18 MILESTONES FOR THE STREAMLINED NADS ACQUISITION

The following are the major milestones for the NADS development:

MILESTONE	START	FINISH
Pre-Proposal Phase		
Cooperative Agreement Signed	12/1/92	12/1/92
Iowa Solicitation Input	1/15/93	1/15/93
TSARC (Acquisition/Selection Plan)	1/15/93	1/15/93
Draft Request For Proposal Issued	2/1/93	2/1/93
Industry Review	2/1/93	3/15/93
Comments Review	3/16/93	4/30/93
Request For Proposal Issued	5/1/93	5/1/93
Industry Proposal Preparation	5/1/93	6/15/93
Proposal Evaluation	6/16/93	9/14/93
Source Selection	9/15/93	9/15/93
Phase 1 - Design Competition		
Design Competition	9/15/93	11/1/94
Post-Award Conference	9/16/93	10/1/93
1st Delivery of Iowa Software	1/1/94	1/1/94
In-Process Review (1 Day/Contractor)	1/1/94	1/5/94
Contractors Questions on Iowa Software	2/1/94	2/1/94
Iowa Response to Contractor Questions	4/1/94	4/1/94
2nd Delivery of Iowa Software	4/1/94	4/1/94
System Design Review (2 Days/ Contractor)	4/1/94	4/5/94
In Process Review (1 Day/Contractor)	7/1/94	7/5/94
Preliminary Design Review (3 Days/Contractor)	9/15/94	10/1/94
Contractor Deliverable Received	10/1/94	10/1/94
NHTSA Acceptance of Deliverable	11/1/94	11/1/94
TSARC (Proceed into System Development)	11/1/94	11/1/94
Proposal Evaluations	10/1/94	12/30/94
Source Selection	1/1/95	1/1/95
Phase II - System Development and Operational Support		
System Development	1/2/95	2/15/98
Post Award Conference	1/1/95	1/5/95
Iowa Submits NADS Facility Plan/Est. Cost	6/1/95	6/1/95
Critical Design Review	1/1/96	1/5/96
Iowa Submits Completed NADS Facility Design	6/1/96	6/1/96
NHTSA Review of NADS Facility Design	6/1/96	10/15/96
NADS Facility Construction Starts	10/15/96	10/15/97
Test Readiness Review (3 Days)	6/1/97	6/4/97
In-Plant Test & Evaluation Review (3 Days)	9/1/97	9/3/97
Installation Certification (2 Days)	1/15/98	1/16/98
NADS Acceptance from Contractor	2/15/98	2/15/98
Operational Phase Ends	12/31/08	12/31/08

3.19 IDENTIFICATION OF PARTICIPANTS IN ACQUISITION PLAN PREPARATION

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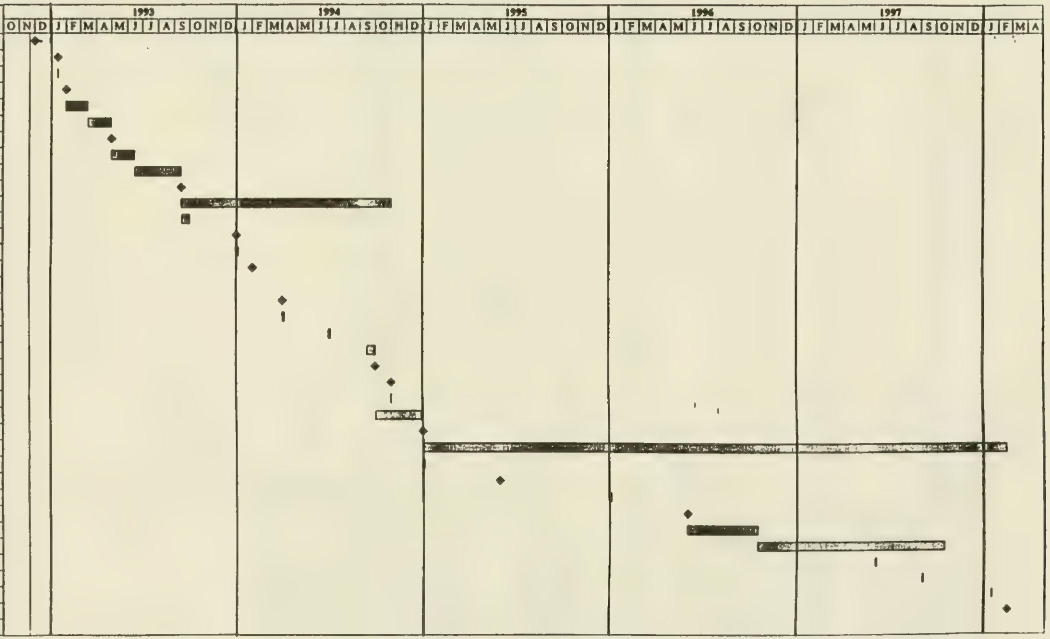
NADS ACQUISITION MILESTONES

MILESTONE	START	FINISH
Cooperative Agreement Signed	12/1/92	12/1/92
Iowa Solicitation Input	1/15/93	1/15/93
TSARC (Acquisition/Selection Plan)	1/15/93	1/15/93
Draft Request For Proposal Issued	2/1/93	2/1/93
Industry Review	2/1/93	3/15/93
Comments Review	3/16/93	4/30/93
Request For Proposal Issued	5/1/93	5/1/93
Industry Proposal Preparation	5/1/93	6/15/93
Proposal Evaluation	6/16/93	9/14/93
Source Selection	9/15/93	9/15/93
Design Competition	9/15/93	11/1/94
Post-Award Conference	9/16/93	10/1/93
1st Delivery of Iowa Software	1/1/94	1/1/94
In-Process Review (1 Day/Contractor)	1/1/94	1/5/94
Contractors Questions on Iowa Software	2/1/94	2/1/94
Iowa Response to Contractor Questions	4/1/94	4/1/94
2nd Delivery of Iowa Software	4/1/94	4/1/94
System Design Review (2 Days/ Contractor)	4/1/94	4/5/94
In Process Review (1 Day/Contractor)	7/1/94	7/5/94
Preliminary Design Review (3 Days/Contractor)	9/15/94	10/1/94
Contractor Deliverable Received	10/1/94	10/1/94
NHTSA Acceptance of Deliverable	11/1/94	11/1/94
TSARC (Proceed into System Development)	11/1/94	11/1/94
Proposal Evaluations	10/1/94	12/30/94
Source Selection	1/1/95	1/1/95
System Development	1/2/95	2/15/98
Post Award Conference	1/1/95	1/5/95
Iowa Submits NADS Facility Plan/Est. Cost	6/1/95	6/1/95
Critical Design Review	1/1/96	1/5/96
Iowa Submits Completed NADS Facility Design	6/1/96	6/1/96
NHTSA Review of NADS Facility Design	6/1/96	10/15/96
NADS Facility Construction Starts	10/15/96	10/15/97
Test Readiness Review (3 Days)	6/1/97	6/4/97
In-Plant Test & Evaluation Review (3 Days)	9/1/97	9/3/97
Installation Certification (2 Days)	1/15/98	1/16/98
NADS Acceptance from Contractor	2/15/98	2/15/98
Operational Phase Ends	12/31/08	12/31/08



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ADDENDUM TO ACQUISITION PLAN

NATIONAL ADVANCED DRIVING SIMULATOR

A1. ADDITIONAL COST DATA (SEE SECTION 2.4 OF A.P.)

The additional cost data contained in this addendum to the Acquisition Plan was unavailable at the time of the original submission to the TSARC and the OST staff on April 20, 1992. In addition, this addendum will clarify the basic cost elements provided in the draft AP which was the subject of several questions during the OST staff review.

A1.1 COST OF NADS FACILITY

The estimated costs of procuring the NADS hardware, software, system integration, and building is $32 million. This estimate was derived in the 1989 NADS Feasibility Study by industry experts who served on the study team. Represented on this team were experts in simulator systems integration, simulator motion platform development, computer image generator systems, and parallel processing super computers. While NHTSA has no reason to alter these original cost estimates at this time, it must be kept in mind that these estimated costs could change once they are subject to the rigors of price competition. At the same time, NHTSA has made no adjustments for the effects of inflation over the past three years. Accurate, detailed cost data for the NADS facility will become available once the concept design contracts have been completed. Until then NHTSA will continue to rely on the original cost estimate breakdown provided in the Feasibility Study as follows:

Systems Engineering and Integration	$ 4.0 million
Motion Subsystem	$ 6.5 million
Visual and Audio Subsystems	$ 12.5 million
Dynamic Simulation Subsystem	$ 5.5 million
Building and Facilities	$ 3.5 million
Total NADS Facility Cost	$ 32.0 million

A1.2 COST OF PRELIMINARY PLANNING ACTIVITY

The NADS program is an outgrowth of a research project conducted by NHTSA's Office of Crash Avoidance Research, Vehicle Dynamics and Simulation Division. The original funding for the NADS feasibility study, $0.1 million, was part of NHTSA's normal funding for Research and Analysis Programs. Therefore, this cost is not part of the appropriated funding for the NADS, but is listed here for the sake of completeness. Costs to conduct the NADS competitive site selection and to perform the two Needs/Requirements contract studies were performed using NADS appropriated funds. All three of these activities are considered part of the preliminary planning effort necessary to initiate the acquisition phase of the NADS project. These costs as summarized below.

NADS Feasibility Study	$ 0.100 million
NSF Site Selection Support	$ 0.075 million
Needs/Requirements Studies	$ 0.335 million
Total	$ 0.510 million

A1.3 COSTS OF ASSESSMENTS

Since the funding for the NADS is appropriated as part of NHTSA's normal Research and Analysis Program, it is subject to an automatic assessment of 1.25 per cent to support the Small Business Innovative Research (SBIR) program. For FY 1992 there were no appropriations for the NADS project and consequently there was no SBIR assessment for that year. It should also be noted that the cost sharing portion of the NADS project (to be provided by non-DOT sources) is not subject to this assessment since these funds are not appropriated. Thus, the projected SBIR assessment for FY 1994 and FY 1995 is based on the level of funds that will be appropriated (funds required, reduced by the cost sharing components from non-DOT sources), rather than the total level of funds that will be required. The projected cost of these assessments, over the duration of the NADS program, are shown below.

SBIR ASSESSMENTS

Fiscal Year 1990	$ 0.036 million
Fiscal Year 1991	$ 0.021 million
Fiscal Year 1992	$ 0.000 million
Fiscal Year 1993	$ 0.118 million
Fiscal Year 1994	$ 0.043 million
Fiscal Year 1995	$ 0.050 million
Fiscal Year 1996	$ 0.030 million
Total	$ 0.298 million

A1.4 COST OF TECHNICAL RISK MITIGATION ACTIVITIES

As was indicated in Section 2.8 of the Acquisition Plan, the primary element of technical risk in the NADS program is associated with the development of the large excursion motion base platform. In recognition of this risk element, NHTSA has undertaken two technical projects during the planning phase of the program to mitigate this risk. The first project was an experimental validation of the need for a large excursion motion system for the NADS. This project was conducted at the NASA Ames Research Center and is described in Section 2.2.2.4 of the Acquisition Plan. The second project was to conduct a more thorough assessment of the motion system excursion envelope than was performed in the original Feasibility Study. This effort was conducted by NHTSA's Vehicle Research and Test Center (VRTC) and the University of Toronto. The costs of these risk mitigation activities are summarized below.

NADS Motion Base Concept Validation	$ 0.110 million
NADS Motion Base Envelope Study	$ 0.050 million
Total	$ 0.160 million

A1.5 COST OF PROGRAM OFFICE SUPPORT

Since the nature of NHTSA's mission rarely requires the acquisition of large systems such as the NADS, the Agency is not organized to support this activity in the same way as larger modes within the Department, e.g., FAA, Coast Guard, etc. Therefore, it will be necessary for NHTSA to secure experienced contractor support for the management of this project. To this end, NHTSA has entered into an Inter-Agency Agreement with the Pentagon, to obtain the program management support from Dynamics Research Corporation of Arlington, Virginia. This firm has vast experience in major systems acquisitions, program management, and project office support as a result of their work on the Strategic Defense Initiative (SDI). The estimated cost of the support required is $0.340 million per year over five fiscal years for a total of $1.690 million. This is in addition to the on-site Project Office support (one person) being provided by Information Management Corporation (IMC), for a total of $0.53 million over six fiscal years. Lastly, NHTSA anticipates the need to exploit the experience the University of Iowa has gained in developing the IDS, in testing concepts and resolving technical issues associated with the NADS development. The Cooperative Agreement provides for this option through the issuance of Cooperative Project Orders to the University of Iowa. The amount anticipated for this activity is $0.150 million per year for FY 1993 and FY 1994. No funds after this period will be required from the Government, since the University of Iowa will be a directed subcontractor to the NADS prime contractor during the build phase of the project. The total cost associated with program management support is summarized below.

Program Management Support - DRC	$ 1.69 million
On-Site Contract Support - IMC	$ 0.53 million
Cooperative Project Orders	$ 0.30 million
Total	$ 2.52 million

A1.6 UNIVERSITY OF IOWA PROJECT ADMINISTRATION

Under the terms of the Cooperative Agreement between NHTSA and the University of Iowa, certain project administration costs incurred by Iowa during the course of the NADS development project will be reimbursed by the Federal Government. Among these will be costs associated with: (1) Iowa's participation in developing and reviewing the NADS RFP and Functional Specification Document, (2) Iowa's participation in proposal evaluation and various on-site contractor progress and design reviews, (3) Iowa's assistance to the two Design Competition contractors in implementing their Real Time Recursive Dynamics and other software packages being provided by Iowa, (4) Iowa's efforts to secure the balance of the required cost sharing ($5.75 million), and (5) Iowa's general technical assistance to the NADS Project Office during Phase I - Design Competition and Phase II - System Development and Operational Support. These costs are estimated at $200,000 per year over a period of five years, for a total of $1,000,000.

A1.7 TOTAL ESTIMATED NADS PROJECT COSTS

The total estimated cost of the NADS project is summarized in the table shown in this section. Note that these costs represent NHTSA's best estimate as of the date of preparation of this Addendum to the Acquisition Plan. The final costs could vary up or down, depending on the results of the concept design contracts.

TOTAL ESTIMATED COST OF NADS PROJECT

Cost of NADS Facility	$ 32.000 million
Cost of Preliminary Planning	$ 0.510 million
Cost of Program Assessments	$ 0.298 million
Cost of Risk Mitigation Projects	$ 0.160 million
Cost of Project Management Support	$ 2.520 million
Cost of Iowa Project Administration	$ 1.000 million
Total NADS Program Cost	$ 36.488 million

NADS: BREAKOUT OF APPROPRIATIONS

Mr. CARR. For the record, please provide a breakout of the appropriations provided to date for NADS and the estimated appropriations needed to support each phase of the project for each fiscal year until project completion.

[The information follows:]

To date, $9.751 million has been appropriated. We are requesting $2 million in FY 1994. The funds required in FY 1995 and beyond will depend on the amount and specific fiscal year that the Iowa and non-DOT cost sharing will be available. Since this is unknown at present, we cannot make a projection of future funding requirements at this time. The balance of the funds required, excluding the $11 million in cost sharing is $13.73 million.

UPDATED SCHEDULE OF NADS ACQUISITION

Mr. CARR. Please provide for the record an updated schedule for the NADS acquisition, similar to that shown on page 23 of the acquisition plan.

[The information follows:]

MILESTONE	START	FINISH
Pre-Proposal Phase		
Cooperative Agreement Signed	03/19/93	03/19/93
Iowa Solicitation Input	03/15/93	03/31/93
TSARC (Acquisition/Selection Plan)	04/05/93	04/05/93
Draft Request For Proposal Issued	04/16/93	04/16/93
Industry Review	04/16/93	05/31/93
Comments Review	05/31/93	06/07/93
Request For Proposal Issued	06/07/93	06/14/93
Industry Proposal Preparation	06/14/93	07/26/93
Proposal Evaluation	07/26/93	09/06/93
Source Selection	09/07/93	09/07/93
Phase 1 - Design Competition		
Design Competition	09/30/93	09/15/94
Post-Award Conference	09/08/93	09/15/93
In-Process Review (1 Day/Contractor)	11/15/93	11/19/94
1st Delivery of Iowa Software	01/01/94	01/01/94
Contractors Questions on Iowa Software	02/01/94	02/01/94
Iowa Response to Contractor Questions	04/01/94	04/01/94
2nd Delivery of Iowa Software	04/01/94	04/01/94
System Design Review (2 Days/Contractor)	04/01/94	04/05/94
In Process Review (1 Day/Contractor)	05/15/94	05/21/94
Preliminary Design Review (3 Days/Contractor)	06/15/94	07/01/94
Contractor Deliverable Received	07/15/94	07/15/94
NHTSA Acceptance of Deliverable	08/01/94	08/01/94
TSARC (Proceed into System Development)	08/01/94	08/01/94
Proposal Evaluations	08/15/94	09/15/94
Source Selection	09/15/94	09/15/94
Phase II - System Development and Operational Support		
System Development	10/01/94	02/15/98
Post Award Conference	01/01/95	01/05/95
Iowa Submits NADS Facility Plan/Est. Cost	06/01/95	06/01/95
Critical Design Review	01/01/96	01/05/96
Iowa Submits Completed NADS Facility Design	06/01/96	06/01/96
NHTSA Review of NADS Facility Design	06/01/96	10/15/96
NADS Facility Construction Starts	10/15/96	10/15/97
Test Readiness Review (3 Days)	06/01/97	06/04/97
In-Plant Test & Evaluation Review (3 Days)	09/01/97	09/03/97
Installation Certification (2 Days)	01/15/98	01/16/98
NADS Acceptance from Contractor	02/15/98	02/15/98
Operational Phase Ends	12/31/08	12/31/08

NADS: ADMINISTRATION AND PROGRAM COSTS

Mr. Carr. Please provide for the record an itemized list of NADS-related project administrative and program costs in fiscal year 1992, estimated for fiscal year 1993 and planned for fiscal year 1994.

[The information follows:]

	Amount
Fiscal Year 1992:	
NADS Motion Envelops Study	$50,000
NADS Needs/Requirements Study Add-On	2,394
NADS Project Office Support Contract	364,260
Fiscal Year 1993 (estimated):	
University of Iowa Program Management	184,000
University of Iowa Vehicle Dynamics Software Development	850,000
NADS Project Office Support Contract	445,758
Fiscal Year 1994 (planned):	
NADS Competitive Design—Dual Award Contracts	3,000,000
NADS Fabrication, Test, Installation-Down Select	9,040,000
University of Iowa Program Management	250,000
University of Iowa Vehicle Dynamics Software Development	460,000
NADS Project Office Support Contract	410,000

IMPACT INJURY RESEARCH CENTERS LOCATIONS

Mr. Carr. Where are the five Impact Injury Research Centers located or planned to be located?

[The information follows:]

Currently, NHTSA has three Impact Injury Research Centers under contract. They are located at the Medical College of Wisconsin, the University of Virginia, and the University of Heidelberg. To increase research capacity in impact trauma research, NHTSA has solicited proposals from additional institution to perform this vital research. Proposals from 11 institutions were received. Proposal evaluation and contract negotiations are currently underway, and it is expected that the additional Impact Injury Research Centers will be selected from among these institutions.

IMPACT INJURY RESEARCH CENTERS WORK

Mr. Carr. Please elaborate on the work that is conducted at each center and the 1993 estimated and 1994 planned budget for the centers.

[The information follows:]

Currently, the research emphasis at the three existing Impact Injury Research Centers is focused on conducting research to better understand the mechanisms of injury to torso and lower extremities associated with restrained occupants involved in frontal and near frontal crashes. As sufficient understanding of the frontal injury mechanisms and tolerances is obtained, the efforts of both the current and additional centers will diversify to include the study of neck injury mechanisms and tolerances and the study of injury mechanisms in side and rollover crashes. In general, to maintain each Impact Injury Research Center with adequate facilities and multidisciplinary staff, a budget of $500 thousand per institution is required. This totals to the proposed $2.5 million requested in the FY 1994 budget for the five Impact Injury Research Centers.

CRASH TEST DUMMY DEVELOPMENT PROGRAM

Mr. Carr. What work is underway in the crash test dummy development program?

[The information follows:]

A recently completed effort has designed a prototype of an advanced dummy torso which has incorporated better anatomic representations of the rib cage, a more realistic shoulder and spinal structure to allow better interaction with torso belt restraints, better anthropometric definition to more accurately represent the seated automotive occupant, increased and more precise instrumentation within the chest to monitor and evaluate the various deformations resulting from impact, and a crushable abdominal insert to monitor for potential injuries. Copies of this prototype device are currently undergoing evaluation by NHTSA, the Transport Research Laboratory in England, and members of the American Automobile Manufacturers Association. NHTSA has solicited, evaluated, and is currently negotiating for efforts to continue the development of this torso. Additional efforts at the agency's Ohio research facility are developing improved neck and lower extremity components.

INJURY SENSING ANDROID FOR AUTOMOTIVE CRASHES

Mr. CARR. Please provide an update of your work on the Injury Sensing Android for Automotive Crashes.

[The information follows:]

NHTSA is not developing a new dummy, but is developing dummy components for the torso, the neck, and the lower extremities.

WASHINGTON CHILDREN'S HOSPITAL CENTER

Mr. CARR. Please provide an update on your research activities at Washington Children's Hospital Center involving pediatric injuries, and state the 1993 estimated and 1994 planned budget for the project.

[The information follows:]

The project started in October 1991. The period of performance for this study is 1 year with two additional 12-month options. The goal of the study was to collect at least 150 cases of children involved in car crashes over the 3-year period. Children who are admitted to the study must be under 13 years of age and restrained by a child restraint system and/or the available vehicle restraint system. As of April 1993, 64 cases have been collected. In the first year, Children's National Medical Center was able to collect only 38 cases which met the study criteria. As a result, the target of 150 cases in 3 years may not be met. The total costs of the first and second years of the study were $175,697 and $182,000, respectively. Current plans are to activate the third year option. The FY 93 budget is estimated at $193,000. We will be considering continuing the Children's Hospital project as a part of our FY 94 procurements.

HIGHWAY SAFETY ANALYTICAL NEEDS

Mr. CARR. What analytical needs in motor vehicle and highway safety exist that cannot be met with existing data sources?

[The information follows:]

All of our important data needs are met with programs in place or planned.

IMPROVEMENTS IN MAJOR DATA SOURCES

Mr. CARR. What improvements are needed, if any, in the major data sources used by NHTSA in its rulemaking and other activities?

[The information follows:]

Improvements are made to our data collection programs as needs are identified.

STATE DATA PROGRAM FUNDING

Mr. CARR. You are requesting a 50 percent increase in funding (to $1.436 million) for the State Data Program in fiscal year 1994. What are some examples of data needs that can be satisfied with this additional investment of funds?

[The information follows:]

State data continue to be an increasingly important source of information for NHTSA's programs. They were used extensively in the past year. The requested increase in funding includes adjustments for cost increases to maintain the State Data files and for data processing costs which continue to increase as the analytic use of state data increases.

As a result of the ISTEA, several states will be providing NCSA with Crash Outcome Data Evaluation System (CODES) data bases, produced by linking crash and medical outcome data. These data bases offer a rich potential for analyses in many highway safety areas. NCSA will use part of the increase in funding to implement a project to explore the data bases, develop proposals for more detailed analyses, and determine how the data can be used to support highway safety efforts other than restraint use benefits, e.g., crashworthiness, EMS, enforcement, and alcohol programs.

Some injury information, currently collected in the National Accident Sampling System's Crashworthiness Data System (CDS) is potentially available from automated trauma data bases and automated hospital records. NCSA will use the remainder of the funding increase to begin a project to explore the availability of automated trauma and hospital data available in the 17 states of the CDS.

CADRE

Mr. CARR. Which states have begun to incorporate Critical Automated Data Reporting Elements (CADRE) in their traffic records system, and what additional progress do you expect to make with this project over the next year?

[The information follows:]

NHTSA is aware of the following states which have or are in the process of changing their police accident report forms and/or their automated files to incorporate CADRE data elements: Michigan, Maryland, the District of Columbia, North Carolina, Minnesota, Puerto Rico, New Jersey, Nebraska, Illinois, and Georgia. Over the next year another 10 to 20 states are expected to begin the process of incorporating the CADRE elements in their police accident report forms and automated files.

NHTSA will complete a state-by-state CADRE assessment in June 1993. This assessment will provide a detailed analysis of each state's police report and automated files and, thus, the status of CADRE implementation. The data obtained will assist in expediting implementation of CADRE.

CADRE: TECHNICAL ASSISTANCE

Mr. CARR. What types of technical assistance is NHTSA giving to the states to encourage them to adopt the CADRE data elements?

[The information follows:]

NHTSA has expended considerable effort over the past year to promote CADRE and work with states implementing CADRE elements. These efforts included: personal visits to several states by traffic records specialists and Regional Operations staff to advise state technical staff in the process of revising their Police Report Form; numerous telephone conversations with state data specialists who are either involved in revising their police accident report forms or are considering doing so; presentations to local, state and national groups concerned with traffic records to promote CADRE; conducting formal, state requested traffic records systems assessments; and writing technical articles which have appeared in the National Safety Council's and National Association of Governor's Highway Safety Representatives traffic records newsletters. NHTSA is also working closely with the National Safety Council and National Association of Governor's Highway Safety Representatives to encourage states to adopt these elements.

The Agency will complete a nationwide state-by-state assessment of the status of CADRE implementation in June 1993. The assessment will provide specific information about the plans for CADRE adoption by each state. This information will be the basis for NHTSA's planned FY 1994 traffic records grants. These grants will be used to comply with Safety Management Systems requirements and to implement CADRE elements.

CADRE: STATE IMPLEMENTATION

Mr. CARR. How do you intend to monitor and report on state implementation of CADRE?

[The information follows:]

NHTSA is attempting to track the implementation of CADRE by individual states. To assist in this endeavor, we are in the process of conducting a nationwide state-by-state assessment of the status of CADRE. This assessment will be completed in June 1993, and will provide NHTSA with specific element-by-element state CADRE implementation status and implementation plans. The needs of specific states will be identified as to the particular areas of data element development where help is required. The data base will be updated and used to identify new levels of CADRE implementation as they are achieved.

TRUCK SAFETY DATA

Mr. CARR. What steps have you taken to improve the collection of truck safety data?

[The information follows:]

NHTSA has completed several efforts to improve data collected on large trucks involved in fatal and other crashes. The Fatal Accident Reporting System (FARS) in 1991 added six new elements to its data collection protocol (Vehicle Configuration, Cargo Body Type, Number of Axles, Registered Vehicle Owner, Commercial Driver License Status, and Compliance With License Endorsements). In 1992 the General Estimates System (GES) added six new large truck data elements to its data collection: Carrier ID, Number of Axles, Cargo Body Type, Hazardous Materials Placarded, Hazardous Materials Placard Number, and Hazardous Materials Release. In each instance, NHTSA and FHWA coordinated to assure that these variables would meet the crash data needs of both agencies. These elements provide greater detail regarding the type of trucks involved in fatal crashes and the drivers of those trucks. The data collected on vehicle configuration and cargo body type provide more specific information on truck characteristics to complement the extensive detail on vehicles already obtained in FARS. Additionally, through an interagency agreement with FHWA, NHTSA has added 7,000 large truck crashes to data collection in the General Estimates System (GES) sample of 45,000 crashes per year. These crashes increase the reliability of the truck crash estimates produced from the GES.

AMENDMENT OF FARS TRUCK-RELATED DATA

Mr. CARR. Do you have any plans to amend the collection of FARS truck-related data so that there is better differentiation between various types and configurations of trucks and their relative safety?

[The information follows:]

In 1991, FARS added several new data elements to its data collection protocol. Six of these new elements (Vehicle Configuration, Cargo Body Type, Number of Axles, Registered Vehicle Owner, Commercial Driver License Status, and Compliance With License Endorsements) provide greater detail regarding the type of trucks involved in fatal crashes and the drivers of those trucks. The data collected on vehicle configuration and cargo body type provide more specific information on truck characteristics to complement the extensive detail on vehicles already obtained in FARS. NHTSA has no plans at this time to make further changes to the FARS truck-related data.

NHTSA/FHWA COORDINATION ON HEAVY TRUCK DATA

Mr. CARR. How much coordination has there been between FHWA and NHTSA on commercial motor vehicle data collection issues?

[The information follows:]

NHTSA and FHWA coordinate extensively to assure that the crash data needs of both agencies are met in the most effective and efficient manner possible. For instance, FHWA and NHTSA both support the Trucks in Fatal Accidents (TIFA) study. This study combines data available in FARS and data from motor carrier crash reports required by FHWA to provide a richer data source for understanding truck crashes involving a fatality. In 1991, NHTSA added several data elements in FARS to respond to FHWA's needs for more extensive detail regarding the types of drivers of trucks involved in fatal crashes. For the past two years, FARS has collected data on commercial driver license requirements for drivers involved in fatal crashes to provide the level of detail needed by FHWA in determining the extent to which drivers have complied with these requirements. These data are being used by FHWA and others to monitor the effectiveness of specific requirements for drivers of commercial vehicles.

Through an interagency agreement with FHWA, NHTSA added 7,000 large truck crashes to data collection in the General Estimates System (GES) sample of 45,000 crashes per year. These crashes increase the reliability of the truck crash estimates produced from the GES and are used in reports such as the Medium and Heavy Truck Report. GES also began collecting six new large truck data elements in 1992.

PROGRAM EVALUATION STUDIES

Mr. Carr. What program evaluation studies are currently underway and what is planned for fiscal year 1994?

[The information follows:]

Program evaluations currently underway include: occupant protection for front-seat occupants (Federal Motor Vehicle Safety Standard 208), New Car Assessment Program, Highway Safety Assessment, antilock brakes for passenger cars and light trucks, center high mounted stop lamps (Federal Motor Vehicle Safety Standard 108), glass-plastic windshields (Federal Motor Vehicle Safety Standard 205), manual 3-point belts for back-seat occupants (Federal Motor Vehicle Safety Standard 208), and the Defects Investigation Program.

Evaluations planned by the agency to begin in fiscal year 1994 include: odometer fraud, side impact protection (Federal Motor Vehicle Safety Standard 214 upgrade), head restraints for light trucks (Federal Motor Vehicle Safety Standard 202), safety effects of fuel economy programs, and alcohol-impaired driving countermeasures (Section 410 incentive grants).

DETERMINATION OF PROGRAM AREAS FOR EVALUATION

Mr. Carr. How do you determine which program areas are ripe for evaluation?

[The information follows:]

The agency evaluates all its major safety programs as a matter of policy. Evaluations of vehicle safety regulations, consumer and highway safety programs, and fuel economy standards are scheduled and conducted on a continuous basis, with several new starts each year. Program areas are usually deemed ready for evaluation when sufficient data are available to carry out statistically valid analyses or when sufficient information for a process assessment can be obtained. For example, depending upon the number and range of vehicles affected by individual safety regulations, (changes may be mandated for all new vehicles or phased in over a period of years), sufficient data may become available between two to six years after the initial implementation of a regulation.

NATIONAL HIGHWAY SAFETY ASSESSMENT

Mr. Carr. What were the results of your assessment of highway safety activities in the state of Washington, in the first phase of your national highway safety assessment?

[The information follows:]

The assessment was begun with Washington as a pilot state to find out if the proposed approach would yield the desired information. The results from Washington State, indicate that the approach does provide sufficient facts, materials and data for a national assessment of the highway safety program based on a representative sample of states. Realizing that Washington is but one State and cannot be generalized upon, the agency found the following results.

Federal highway safety grants amount to less than two percent of the total State expenditures for highway safety related activities (the State spent an estimated $150 million in 1990, the § 402 grant was $2.7 million). Grants provided seed money for drinking and driving prevention programs, such as community task forces which undertake a broad range of activities, and for programs directed at youth. Grant supported safety belt use programs which helped raise the use of safety belts from 16 percent in 1981 to over 70 percent in 1991.

Most programs areas funded by grants were used to initiate special or innovative projects at the beginning of the 1980 decade and are now funded by Washington State. This covers programs in emergency medical services, traffic records, traffic law enforcement activities involving breath testing and safety education, and motorcycle safety.

The State made extensive use of technical assistance developed with § 403 grants. Training, information and education, and countermeasure demonstration products helped develop and improve alcohol and occupant protection programs, trauma care planning and traffic records systems.

While grants for drinking and driving prevention, and safety belt use programs have yielded some of the best results, State or local funding support has not materialized. In a specific case, the State's budget problems threaten to phase out significant funding for local traffic safety task forces which were initially begun with Federal funds.

NDR: TRANSFERRING RESPONSIBILITY TO STATES

Mr. CARR. What are the barriers to transferring to the states the responsibility for operating the National Driver Register?

[The information follows:]

As requested by the Senate Appropriations Committee, the Agency is preparing a report to Congress on the merits on reducing NHTSA's involvement in the National Driver Register. The report will discuss the issues involved in transferring operational responsibility for all or part of the Register to the states. These issues include the Register's legislative authority, operating costs, funding sources, operational considerations, accountability, and data security. The report is due to Congress in June 1993.

FISCAL YEAR 1993 TO FISCAL YEAR 1994 FUNDING COMPARISON

Mr. CARR. For the record, please provide a table comparing the amounts for fiscal year 1993 as shown in your 1994 justification to the amounts indicated in last year's appropriations conference report, and explain in detail any reprogrammings into or out of those activities which account for those differences. This should be similar in format to the data provided on page 864 of last year's hearing record.

[The information follows:]

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

FY 1993 Funding

	Conference Report Assumption	Subsequent Budget Assumption
	(Dollars in Thousands)	
Operations and Research:		
Rulemaking Programs	$ 11,370	$ 11,060
Enforcement Programs	16,862	16,430
Highway Safety Programs	41,031	41,086
Research and Analysis	54,975	54,104
Office of Administrator/Staff Offices	3,500	3,514
General Administration	8,449	8,099
Account-Wide Adjustments:		
Personnel-related administration	-107	*
Field offices	-50	*
Reduce travel	-100	*
Delete recruitment/retention bonuses	-180	*
Computer support	-1,100	*
Permanent change of station	-80	*
Operations and Research (gross)	134,570	134,293
Reimbursements from Grants Account:		
Section 402 Grant Administration	-5,153	-5,153
Nat'l Driver Register Salaries & Expenses	-890	-890
Unspecified**	-277	--
Operations and Research (net)	128,250	128,250
Highway Traffic Safety Grants:		
Section 402 Formula Grants	115,000	115,000
Section 408 Alcohol Safety Grants	11,000	11,000
Section 153 Belt/Motorcycle Helmet Use	12,000	12,000
National Driver Register	3,650	3,650
Highway Traffic Safety Grants	141,650	141,650
NHTSA Total	269,900	269,900

Notes:

* Amounts allocated to individual program offices.

** Reflects discrepancy between O&R account and grants account.

There have been no reprogramming actions that require advance notification of the Congressional Appropriations Committees. In particular, there have been no shifts of FY 1993 funds that affect activities considered to be Congressional earmarks or identified as areas of "key Congressional interest" in the Quarterly Report of Reprogramming Actions dated 11/17/92. The budget assumption does reflect re-establishment of the Office of Intergovernmental Affairs, consistent with correspondence received from the Appropriations Subcommittee Chairmen indicating that the Subcommittees have no objection to this action.

There have been some shifts of funds among "programs, projects or activities" (PPAs), as identified in the Quarterly Report, that are well within the levels allowed under the Department's reprogramming guidelines. The largest such shift was a result of account-wide reductions of $1.6 million that were indicated in the House-Senate Conference Committee Report. NHTSA allocated the reductions among the individual program offices so the FY 1993 appropriation would be shown on a comparable basis as the FY 1994 budget request for these offices. While this re-allocation did affect the way the budget is displayed, it did not result in any changes in the way the budget is actually implemented in the agency.

In addition, three relatively smaller adjustments were reflected on that Quarterly Report. First, an adjustment was made as a result of a discrepancy of $277 thousand having to do with the amount of Section 402 grant administration that was available as a reimbursement in the Operations and Research account. Second, it was possible to reduce the previous budget assumption by $155 thousand for operating expenses for the Vehicle Research and Test Center, and these funds were allocated for salaries and benefits. Third, the total contract program was reduced by $516 thousand in order to provide some additional funds for salaries and benefits.

These three shifts represent minor but necessary fine-tuning which typically takes place when the agency implements its budget. For example, to provide a perspective on the magnitude of the shift from contracts to salaries, this shift represents a reduction of less than 7/10ths of 1 percent of the agency's contract program. While this and the other transactions affected all PPAs, the overall impact on any single PPA was very small.

TRAVEL EXPENSES

Mr. CARR. Please update the travel expenses information shown on page 867 of last year's hearing record by providing data for fiscal years 1992–1994.

[The information follows:]

TRAVEL AND TRANSPORTATION OF PERSONS
(dollars in thousands)

Budget Activities/Staff Offices	Fiscal Year 1992	Fiscal Year 1993	Fiscal Year 1994
Rulemaking Programs	$58	$51	$60
Enforcement Programs	93	86	93
Highway Safety Program:			
Headquarters	300	258	270
Regional Offices	315	336	343
Subtotal, Highway Safety Program	615	594	613
Research and Analysis Programs	143	118	130
Office of the Administrator:			
Administrator/Deputy	18	28	30
Civil Rights	3	4	4
Chief Counsel	7	13	15
Public and Consumer Affairs	12	18	20
Subtotal, Office of the Administrator	40	63	69
General Administration:			
Plans and Policy	8	13	14
Administration	20	18	19
Change of Station	1	1	1
Subtotal, General Administration	29	32	34
Total, Travel and Transportation of Persons	978	944	999
Funding Derivation:			
Operations and Research Funding	663	734	749
Section 402 Funding	315	210	250

OVERSEA TRAVEL DATA

Mr. Carr. Please update the data on overseas travel found on pages 869–872 of last year's hearing record, beginning from the date of last year's submission and continuing to the present time.

[The information follows:]

MARCH 1992

One person went to Bermuda for 3 days to attend the annual meeting of the Automotive Occupant Restraints Council and address the Inflatable Restraints Committee on the subject of recycling of airbag equipped cars. The cost: $1,332.00.

One person went to France for 4 days as the U.S. participant in the fifth session on anthropomorphic test devices and frontal crash protection of car occupants of the European Experimental Vehicles Committee. The cost: $1,590.65.

One person went to Switzerland for 4 days as U.S. Delegate to the 62nd Session of the Meeting of Experts on General Safety Provisions of the Economic Commission for Europe. The cost: $1,580.14.

MAY 1992

Two persons went to France and Germany for 10 days to discuss offset crash testing, anthropometric dummy development, driving simulator technology and to complete site and budget agreements for the 14th International Technical Conference for the Enhancement of the Safety of Vehicles. The cost: $7,340.78.

One person went to Germany for 4 days as the U.S. Delegate to the 28th Session of the Meeting of Experts on Lighting and Light-Signalling of the Economic Commission for Europe. The cost: $1,602.00.

One person went to Germany for 4 days as the U.S. Delegate to a special session of the Meeting of Experts on Brakes and Running Gear concerning electronic braking systems. The cost: $1,684.41.

JUNE 1992

One person went to Switzerland for 6 days as the U.S. Delegate to the 11th Session of the Meeting of Experts on Passive Safety of the Economic Commission for Europe. The cost: $1,790.00

One person went to Germany for 7 days as the U.S. participant in the 6th Session on anthropomorphic test devices and frontal crash protection of car occupants of the European Experimental Vehicles Committee, and to participate in discussions on offset crash testing. The cost: $1,832.24.

One person went to Switzerland for 6 days as the U.S. Delegate to the administrative committee on the program of work and the 97th Session of the Working Parking on the Construction of Vehicles of the Economic Commission for Europe. The cost: $1,950.00.

JULY 1992

One person went to Switzerland for 5 days as the U.S. Delegate to the 31st Session of the Meeting of Experts on Brakes and Running Gear of the Economic Commission for Europe. The cost: $1,671.47.

One person went to Australia for 10 days to participate in a seminar on the state of knowledge concerning crash injury biomechanics and the importance of current anthropomorphic test devices in the specification of vehicle safety standards; and to participate in formal discussions with the National Health and Medical Research Council's Road Accident Research Unit concerning their programs on head injury and accident analysis. The cost: $6,500.00.

SEPTEMBER 1992

One person went to Italy for 4 days as the U.S. Delegate to a Special Session of the Meeting of Experts on Passive Safety of the Economic Commission for Europe concerning the development of a European regulation on frontal impact protection of passenger car occupants. The cost: $2,262.00.

OCTOBER 1992

One person went to Switzerland for 6 days as U.S. Delegate to the administrative committee on the program of work and the 98th Session of the Working Party on the Construction of Vehicles of the Economic Commission for Europe. The cost: $2,064.75.

One person went to Switzerland for 10 days as U.S. Delegate to a special Session of the Meeting of Experts on Passive Safety of the Economic Commission for Europe concerning frontal impact protection; as U.S. Delegate to the 63rd Session of the Meeting of Experts on General Safety Provisions of the Economic Commission for Europe; and participate as a member of the U.S. Delegation to the Working Parking on the Construction of Vehicles of the Economic Commission for Europe. The cost: $3,046.00.

NOVEMBER 1992

One person went to Germany for 4 days as U.S. Delegate to the 29th Session of the Meeting of Experts on Lighting and Light-Signalling of the Economic Commission for Europe. The cost: $1,347.00.

One person went to Germany for 4 days to present a paper at the Airbag 2000 Conference on the effectiveness of airbags in reducing motor vehicle fatalities and injuries. The cost: $2,100.00.

DECEMBER 1992

One person went to Switzerland for 4 days as U.S. Delegate to the 12th Session of the Meeting of Experts on Passive Safety of the Economic Commission for Europe. The cost: $1,725.00.

One person went to Belgium for 5 days to participate in an international conference on the influence of crash testing on road traffic safety. The cost: $2,100.00.

FEBRUARY 1993

One person went to Switzerland for 4 days as U.S. Delegate to the 32nd Session of the Meeting of Experts on Brakes and Running Gear of the Economic Commission for Europe. The cost: $1,671.47.

One person went to France for 6 days as the U.S. Delegate to an International Standards Organization Working Group on the subject of motorcycle impact test procedures. The cost: $1,720.51.

One person went to the United Kingdom for 5 days as the U.S. participant in the 8th Session on anthropomorphic test devices and frontal crash protection of car occupants of the European Experimental Vehicles Committee. The cost: $1,218.65.

MARCH 1993

One person went to Switzerland for 6 days as the U.S. Delegate to the administrative committee on the program of work and the 99th Session of the Working Party on the Construction of Vehicles of the Economic Commission for Europe. The cost: $1,564.56.

One person went to Switzerland for 4 days as the U.S. Delegate to the 30th Session of the Meeting of Experts on Lighting and Light-Signalling of the Economic Commission for Europe. The cost: $1,692.00.

One person went to Switzerland for 5 days as the U.S. Delegate to the 20th Session of the Working Party on Road Traffic Safety. The cost: $1,781.00.

The total cost of overseas travel performed by NHTSA from mid-March 1992 to mid-April 1993 was $53,166.63 of which $16,719.24 was funded by NHTSA; $25,747.39 by the Department of State; $6,500 by the State Government Insurance Commission of South Australia; $2,100 by the Fraunhofer Institute for Chemical Technology of Germany; and $2,100 by the TUV-Akademie Rheinland GmbH Institute for Traffic Safety of Germany.

FIRST CLASS AIR TRAVEL TRIPS

Mr. CARR. Please provide a listing of trips over the past year where NHTSA employees actually utilized first class air travel.

[The information follows:]

In the past year, no agency employees have utilized first class air travel.

AMTRAK TRIPS

Mr. CARR. Please also update the listing of trips made by NHTSA headquarters personnel in which Amtrak was utilized.

[The information follows:]

In Fiscal Year 1992, agency personnel made the following trips in which Amtrak was utilized:

Two trips from New Carrollton, MD to New York, NY, and return.
Two trips from Washington, DC to Philadelphia, PA, and return.
One trip from Washington, DC to Boston, MA, and return.
One trip from Washington, DC to Orlando, FL, and return.
One trip from Washington, DC to Wilmington, DE, and return.
One trip from Baltimore, MD to New London, CT, to Boston, MA, and return to Baltimore, MD.

MASS TRANSPORTATION FARE SUBSIDY PROGRAM

Mr. CARR. You are requesting an increase of $153,000 for the mass transportation fare subsidy program. Why are you proposing to increase the subsidy from $21 to $60 per month for each participating employee?

[The information follows:]

In October 1992, the President signed the Comprehensive National Energy Policy Act which raised the transit fare subsidy from $21 to $60. The agency followed the Department's lead in increasing the subsidy from $21 to $60 per month for eligible participating employees. The Department believes that the transit fare subsidy program promotes the use of public transportation and is consistent with the National Transportation Policy. Eighty percent of the participating employees are eligible to receive the full subsidy.

NHTSA EMPLOYEES IN MASS TRANSPORTATION PROGRAM

Mr. CARR. How many NHTSA employees participate currently in the program and what are the estimated fiscal year 1993 costs?

[The information follows:]

There are currently 286 employees approved to participate in the program. The estimated cost of the transit fare subsidy program for Fiscal Year 1993 is $210 thousand.

MASS TRANSPORTATION PROGRAM SUBSIDY LEVELS

Mr. CARR. What increase in the fiscal year 1994 budget would be required to annualize the fiscal year 1993 transportation subsidy program at the $21 subsidy level?

[The information follows:]

No increase would be required if the subsidy remained at the monthly level of $21 per participating employee. However, in January 1993 the Department implemented a policy to increase the monthly subsidy to $60 per participating employee, pursuant to the Comprehensive National Energy Policy Act. As a result, it became necessary for NHTSA to pay additional costs due to the higher fare subsidy and an increase in participation. For FY 1994, the budget requests an increase of $153 thousand to provide appropriations for the higher subsidy on a full-year basis.

TRAINING EXPENSES BREAKDOWN

Mr. CARR. Please update the breakdown of training expenses on pages 874–877 by providing data for fiscal years 1991–1994.

[The information follows:]

NHTSA training, fiscal year 1991

A.	In House Government and Non-Government	
	MS DOS	$5,000
	Introduction to Automotive Safety Systems	6,000
	Using PC's to Access Mainframe Computers	4,000
	dBase III+	4,000
	Lotus 1-2-3	4,000
	Computer Coding for Hotline	8,000
	Symphony	4,000
	Pre-Retirement Seminar	500
	Preparation of Work Statements	5,500
	Writing Improvement	6,000
	Word Perfect	9,000
	Subtotal	56,000
B.	Interagency Training	
	Federal Executive Institute	14,100
	Executive Seminars	27,375
	Supervision	5,000
	Seminar for Prospective Women Managers	7,000
	Labor-Management Relations	1,902
	Management Skills Seminars	4,000
	Equal Employment Opportunity	1,500
	Translator for Hearing Impaired	5,250
	Courses Shown in A. For Field Locations	15,000
	Subtotal	81,127
C.	Outside training completed through separate registration at colleges, OPM, technical centers	50,873
	Total	$188,000

NHTSA training, fiscal year 1992

A. In House Government and Non-Government

Banyon Vines	$ 4,000
MS DOS	4,000
dBase III and IV	4,000
Lotus	4,000
Harvard Graphics	2,100
Pre-Retirement Seminar	500
Preparation of Work Statements	5,800
Time Management	1,700
Professional Development	3,000
WordPerfect	13,000
Subtotal	42,100

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B. Interagency Training

Federal Executive Institute	$18,900
Executive Seminars	25,675
Supervision	5,800
Seminar for Prospective Women Managers	14,450
Labor-Management Relations	1,344
Management Skills Seminars	1,600
Equal Employment Opportunity	2,000
Work Force Diversity	19,384
Courses Shown in A. for Field Locations	25,000
Subtotal	$114,153

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C. Outside training completed through separate registration at colleges, technical centers and OPM (principally technical)	36,747
Total	$193,000

NHTSA training, fiscal year 1993

A. In House Government and Non-Government	
Banyon Vines	$ 4,000
MS DOS	3,000
dBase III and IV	4,000
Lotus	4,000
Harvard Graphics	4,000
Pre-Retirement Seminar	500
Preparation of Work Statements	5,800
Writing Improvement	7,000
Telephone Techniques	4,500
Subtotal	36,800
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B. Interagency Training	
Federal Executive Institute	13,000
Management Development Seminars	27,500
Supervision	5,000
Seminar for Prospective Women Managers	13,920
Labor-Management Relations	1,902
Equal Employment Opportunity	1,500
Translator for Hearing Impaired	5,250
Work Force Diversity	24,838
Courses Shown in A. For Field Locations	25,000
Subtotal	$117,910
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C. Outside training completed through separate registration at colleges, technical centers and OPM (principally technical)	38,290
Total	$193,000

SUMMARY OF PLANNED TRAINING EXPENDITURES FOR FISCAL YEAR 1994

COURSE	COST PER PERSON	NUMBER OF SPACES	TOTALS
A. **Executive, Managerial and Special Emphasis**			
SES Candidate Development Program	$5,000	6	$30,000
Diversity Training	300	100	30,000
Federal Executive Institute	7,000	2	14,000
Seminar for Prospective Women Managers	950	8	7,600
OPM Management Development Centers	2,200	10	22,000
Labor Management Relations	400	5	2,000
Translators for Hearing Impaired	500	10	5,000
		141	$110,600

B. In House Training $61,000

This training will include basic and advanced WordPerfect and a wide variety of specialized WordPerfect courses. Other courses will include MS DOS, Oracle, dBase IV, Lotus 1-2-3, Business Graphics, DeskTop Publishing, Writing Improvement, NHTSA Supervision, Preventing Sexual Harassment, Pre Retirement Seminar, Introduction to Procurement for COTR'S, Wellness Seminars, Proofreading, Hotline Training, and Mentors Training.

C. Individual Training $20,400

These activities cover many of the training courses listed above in the In-House section for our ten Regions, our Vehicle Research and Test Center in Ohio, and our facility in San Angelo. In addition, there will be need for Individual Training in Advanced Dbase, Advanced Lotus, Paradox, Harvard Graphics, Basic Budget Techniques, and Business Graphics. Individual Training also includes all of our college and university courses, which include the more complex engineering, technical and specialty courses.

D. NHTSA Totals $192,000

REGIONAL OFFICE STAFFING AND GRANT RESPONSIBILITY

Mr. CARR. Please update the data on regional office staffing and grants responsibility, as shown on pages 879–883 of last year's yearing record.

[The information follows:]

As of May 1993, the ten NHTSA regional offices are organized as follows:

Region 1 - Boston, Massachusetts
States: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont
Positions: 10 Full-Time Permanent Positions
FY 1992 402 Funds: $5,515,145

Job Title and Grade

Regional Administrator (GM-15)
Deputy Regional Administrator (GM-14)
Regional Program Manager (GS-13)
Regional Program Manager (GS-13)
Regional Program Manager (GS-13)
Regional Program Manager (GS-13)
Regional Program Manager (GS-13)
Regional Program Manager (GS-11)
Program Support Specialist (GS-9)
Secretary (GS-7)

Region 2 - White Plains, New York
States New Jersey, New York, Puerto Rico, Virgin Islands
Positions: 7 Full-time Permanent Positions
FY 1992 402 Funds: $10,623,568

Job Title and Grade

Regional Administrator (GM-15)
Deputy Regional Administrator (GM-14)
Regional Program Manager (GS-14)
Regional Program Manager (GS-13)
Regional Program Manager (GS-13)
Regional Program Specialist (GS-11)
Secretary (GS-7)

Region 3 - Hanover, Maryland

States:	Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, West Virginia
Positions:	8 Full-Time Permanent Positions
FY 1992 402 Funds:	$10,592,713

Job Title and Grade

Regional Administrator (GM-15)
Deputy Regional Administrator (GM-14)
Regional Program Manager (GS-14)
Regional Program Manager (GS-13)
Regional Program Manager (GS-13)
Highway Safety Specialist (GS-13)
Highway Safety Specialist (GS-7)
Secretary (GS-7)

Region 4 - Atlanta, Georgia

States:	Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee
Positions:	13 Full-Time Permanent Positions
FY 1992 402 Funds:	$18,897,551

Job Title and Grade

Regional Administrator (GM-15)
Deputy Regional Administrator (GM-14)
Regional Program Manager (GS-14)
Regional Program Manager (GS-14)
Regional Program Manager (GS-13)
Regional Program Manager (GS-13)
Regional Program Manager (GS-13)
Regional Program Manager (GS-13)
Regional Program Manager (GS-13)
Regional Program Manager (GS-9)
Regional Program Manager (GS-7)
Program Assistant (GS-7)
Secretary (GS-7)

Region 5 - Homewood, Illinois
States: Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin
Positions: 11 Full-Time Permanent Positions
FY 1992 402 Funds: $19,435,199

Job Title and Grade

Regional Administrator (GM-15)
Deputy Regional Administrator (GM-14)
Regional Program Manager (GS-14)
Regional Program Manager (GS-14)
Regional Program Manager (GS-13)
Regional Program Manager (GS-13)
Regional Program Manager (GS-13)
Regional Program Manager (GS-12)
Program Development Specialist (GS-9)
Technology Transfer Assistant (GS-5)
Secretary (GS-7)

Region 6 - Fort Worth, Texas
States: Arkansas, Louisiana, New Mexico, Oklahoma, Texas, Indian Nations
Positions: 9 Full-Time Permanent Positions
FY 1992 402 Funds: $13,537,542

Job Title and Grade

Regional Administrator (GM-15)
Deputy Regional Administrator (GM-14)
Regional Program Manager (GS-14)
Regional Program Manager (GS-14)
Regional Program Manager (GS-13)
Regional Program Manager (GS-13)
Highway Safety Specialist (GS-11)
Program Assistant (GS-7)
Secretary (GS-7)

Region 7 - Kansas City, Missouri
States: Iowa, Kansas, Missouri, Nebraska
Positions: 7 Full-Time Permanent Positions
FY 1992 402 Funds: $6,898,009

Job Title and Grade

Regional Administrator (GM-15)
Deputy Regional Administrator (GM-14)
Regional Program Manager (GS-13)
Regional Program Manager (GS-12)
Regional Program Manager (GS-11)
Regional Program Manager (GS-11)
Secretary (GS-7)

Region 8 - Denver, Colorado
States: Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming
Positions: 9 Full-Time Permanent Positions
FY 1992 402 Funds: $5,265,456

Job Title and Grade

Regional Administrator (GM-15)
Deputy Regional Administrator (GM-14)
Regional Program Manager (GS-13)
Regional Program Manager (GS-13)
Regional Program Manager (GS-13)
Regional Program Manager (GS-12)
Regional Program Manager (GS-11)
Regional Program Manager (GS-11)
Secretary (GS-7)

Region 9 - San Francisco, California
States: Arizona, California, Hawaii, Nevada, American Samoa, Guam, Mariana Islands
Positions: 9 Full-Time Permanent Positions
FY 1992 402 Funds: $14,156,854

Job Title and Grade

Regional Administrator (GM-15)
Deputy Regional Administrator (GM-14)
Regional Program Manager (GS-14)
Regional Program Manager (GS-13)
Regional Program Manager (GS-13)
Regional Program Manager (GS-13)
Program Development, Training, Evaluation Coordinator (GS-14)
Program Assistant (GS-6)
Secretary (GS-7)

Region 10 - Seattle, Washington
States: Alaska, Idaho, Oregon, Washington
Positions: 7 Full-Time Permanent Positions
FY 1992 402 Funds: $4,924,963

Job Title and Grade

Regional Administrator (GM-15)
Deputy Regional Administrator (GM-14)
Regional Program Manager (GS-13)
Regional Program Manager (GS-13)
Regional Program Manager (GS-13)
Regional Program Manager (GS-11)
Secretary (GS-7)

OFFICE OF THE ADMINISTRATOR: FULL-TIME POSITIONS

Mr. Carr. Please update the table, showing full-time positions and dollars for each of the offices under the Office of the Administrator account, as shown on pages 952 of last year's hearing record, by providing data for fiscal years 1992-1994.

[The information follows:]

OFFICE OF THE ADMINISTRATOR AND STAFF OFFICES

Positions and funding, fiscal year 1992–1994

[Dollars in thousands]

	1992		1993		1994	
	Position	Funding	Position	Funding	Position	Funding
Office of the Administrator	5	423	4	365	4	369
Deputy Administrator	2	162	2	168	2	169
Executive Director	2	162	2	168	2	169
Intergovernmental Affairs	0	0	1	84	1	85
International Harmonization	2	162	2	168	2	169
Executive Secretariat	6	486	6	505	6	508
Civil Rights	4	328	4	341	4	343
Public and Consumer Affairs	14	1,147	12	1,028	12	1,036
Chief Counsel	30	2,439	30	2,538	30	2,556
Less: Mission Support	−22	(1,784)	−22	(1,851)	−22	(1,863)
Total	43	3,525	41	3,514	41	3,541

Mr. Carr. Please also update the personnel staffing and PC&B cost tables shown on page 953 of last year's hearing record by providing data for fiscal years 1990–1994.

[The information follows:]

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

	Fiscal year				
	1990	1991	1992	1993	1994
Full-time permanent positions by program:					
Rulemaking	92	93	93	95	95
Enforcement	101	103	103	103	103
Highway traffic safety[1]	180	186	209	208	208
Research and analysis[1]	146	146	130	130	130
Office of the administrator and staff offices	46	46	43	41	41
General administration	91	91	91	91	90
Full-time permanent positions, total	656	665	669	668	667

[Dollars in thousands]

	1990	1991	1992	1993	1994
Salaries and benefits costs by program:					
Rulemaking	$5,524	$5,791	$6,312	$6,522	$6,577
Enforcement	5,528	6,414	6,991	7,071	7,131
Highway traffic safety[1]	10,288	11,582	14,186	14,279	14,400
Research and analysis[1]	8,583	9,091	8,824	8,925	9,000
Office of the administrator and staff offices	2,476	2,864	2,918	2,815	2,839
General administration	5,586	5,667	6,177	6,247	6,300
Salaries and benefits, total	37,985	41,409	45,408	45,859	46,247

[1] In FY 1992, NHTSA transferred the Highway Safety Research activity, formerly under Research and Analysis Programs, to the Highway Safety Programs.

OFFICE OF THE ADMINISTRATOR: TITLES AND SALARY

Mr. CARR. Please provide a listing showing the title and salary of each position under the Office of the Administrator account, by office, similar in format to what appears on pages 953–954 of last year's hearing record.

[The information follows:]

OFFICE OF THE ADMINISTRATOR

Administrator	**Amount**
Administrator	Vacant
Special Assistant	Vacant
Staff Assistant	48,356
Staff Assistant	36,986
Deputy Administrator	
Deputy Administrator	Vacant
Secretary	Vacant
Executive Director	
Executive Director	115,700
Executive Staff Assistant	33,663
Director of International Harmonization	
General Engineer	86,589
Secretary	27,676
Executive Secretariat	
Supervisory Correspondence Analyst	36,723
Correspondence Analyst	24,988
Correspondence Analyst	26,502
Correspondence Analyst	Vacant
Correspondence Clerk	20,784
Correspondence Clerk	19,123
Office of Civil Rights	
Supervisory Equal Opportunity Specialist	68,829
Equal Opportunity Specialist	73,619
Equal Opportunity Specialist	29,530
Secretary	27,253
Office of Public and Consumer Affairs	
Director	Vacant
Supervisory Public Affairs Specialist	86,241
Secretary	28,773
Media Relations Division	
Supervisory Public Affairs Specialist	67,862
Public Affairs Specialist	Vacant
Public Affairs Specialist	49,517
Public Affairs Specialist	42,591
Public Affairs Assistant	32,710
Consumer Information Division	
Chief	Vacant
Writer Editor	47,013
Public Affairs Specialist	33,623
Public Affairs Specialist	41,641
Office of Intergovernmental Affairs	
Director	Vacant

NOTE: This table reflects authorized full-time permanent positions in the Office of the Administrator and related staff offices, excluding the Chief Counsel's office.

NHTSA POLITICAL APPOINTEES

Mr. CARR. Please update the listing of NHTSA political appointees, including the position, title, type of appointment, and salary, similar to data shown on page 884 of last year's hearing record. Please provide data for fiscal years 1991–1993.

[The information follows:]

Title	Type of appointment	Salary
Fiscal Year 1991:		
Deputy administrator	Non career SES	$108,300
Counsel to the administrator	Non career SES	91,200
Chief counsel	Non career SES	100,500
Director, intergovernmental affairs	Excepted	72,947
Special assistant	Excepted	47,304
Special assistant	Excepted	45,826
Director, office, public and consumer affairs	Excepted	63,698
Chief, consumer affairs division	Excepted	54,844
Chief, communications division	Excepted	52,406
Fiscal Year 1992:		
Deputy administrator	Non career SES	94,400
Chief counsel	Non career SES	104,000
Special assistant	Excepted	56,427
Special assistant	Excepted	49,290
Director, office, public and consumer affairs	Excepted	68,515
Chief, consumer affairs division	Excepted	58,967
Fiscal Year 1993—On Board 10/92 to 1/93:		
Chief counsel	Non career SES	104,000
Special assistant	Excepted	58,247
Director, office, public and consumer affairs	Excepted	70,656
Chief, consumer affairs division	Excepted	60,787

HEALTH INSURANCE COST INCREASES

Mr. CARR. In fiscal years 1992 and 1993 how close were your budgetary estimates of health insurance cost increases to the increases actually experienced?

[The information follows:]

The projected health benefit costs for FY 1992 were $1,404,000 compared to the actual costs of $1,441,878. Assuming normal cost escalation over the FY 1992 actual level, the projected costs for FY 1993 are $1,495,000. Actual costs for the first six months of FY 1993 were $752,152.

STAFFING TABLES FOR 1990–1994

Mr. CARR. Please update the staffing tables found on page 886 of last year's hearing record by deleting 1989 and adding 1994.

[The information follows:]

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

	1990	1991	1992	1993	1994
Full-time equivalent (FTE) ceiling:					
From full-time permanent positions	623	634	656	638	637
From other positions	51	50	47	34	34
Total	674	684	703	672	671

Note: the above table excludes non-ceiling FTE (17 in 1990; 19 in 1991; 24 in 1992; and 19 in 1993–1994). This table also does not reflect a planned reduction of 7 FTE in FY 1994 because it has not yet been allocated among ceiling and non-ceiling FTE.

Fiscal year	Permanent positions	Employee ceiling[1]	Differential
Operations and research:			
1990	567	534	(33)
1991	576	545	(31)
1992	582	569	(13)
1993	568	538	(30)
1994	567	537	(30)
Highway traffic safety grants:			
1990	89	89	0
1991	89	89	0
1992	87	87	0
1993	100	100	0
1994	100	100	0
NHTSA total:			
1990	656	623	(33)
1991	665	634	(31)
1992	669	656	(13)
1993	668	638	(30)
1994	667	637	(30)

[1] Portion of fulll-time equivalent (FTE) ceiling used for full-time permanent (FTP) positions. Excludes FTEs used for other position.

UNOBLIGATED BALANCE

Mr. CARR. Please also update the breakdown of the unobligated balance carried forward into fiscal year 1993, similar in format to that appearing on pages 888–889 of last year's hearing record.

[The information follows:]

In the Operations and Research appropriation, an unobligated balance of $14.813 million was brought forward, together with $1.438 million of recoveries, and made available for use in FY 1993. Most of the FY 1993 carryover ($13.467 million) was reserved for three activities: Section 410 Grants, the NDR Program, and the simulator. The balance of the carryover ($2.784 million) represents only 2% of the agency's FY 1992 Operations and Research appropriation.

The following table provides a breakdown, by program, of the unobligated balance and a more detailed explanation follows the table.

Operations and Research—Carryover of Unobligated Funds into FY 1993

[Dollars in thousands]

Contract program:	
Rulemaking	$143
Enforcement	40
Highway safety:	
Section 410 grants	6,186
NDR	4,081
Other	8
Highway safety	10,275
Research and development:	
Simulator	3,200
Other	202
Research and development	3,402
General administration	499
Miscellaneous operating expenses	454
Recoveries	1,438
Total	$16,251

Rulemaking—($143 thousand)—Carryover for New Car Assessment Program.

Enforcement—($40 thousand)—Carryover for defects investigation program.

Highway Safety Programs—($10.275 million)—Sixty percent ($6.186 million) of Highway Safety's carryover is earmarked for Section 410 Grants and will continue to be made available to qualifying states in FY 1993. Of the remaining Highway Safety carryover, $4,081 million is earmarked for the NDR Program and $8 thousand is associated with a variety of program activities.

Research and Development—($3.402 million)—Most of the carryover ($3.2 million) is attributed to the National Advanced Driver Simulator (NADS). The remaining $202 thousand is associated with various research program activities.

General Administration—($499,000)—Carryover resulted from a delay in the Plans and Policy assessment of States' highway safety programs ($234 thousand) and from Administrative Services and Training agreements ($265,000) that were now finalized prior to year end. Funds will be used for these purposes in FY 1993.

Miscellaneous Administrative Expenses—($454,000)—This amount represents only less than 1% of the agency's Operations and Research appropriation and comprises carryover from salaries and benefits, travel, and operating expenses for field and headquarters.

Recoveries—($1.438)—Contract underruns from a variety of program areas and other deobligations from prior years (FY 1991 and before) were available in FY 1993.

TWENTY-FIVE LARGEST NHTSA CONTRACTORS

Mr. Carr. Please update the information on the 25 largest NHTSA contractors found on pages 891–893 of last year's hearing record.

[The information follows:]

NHTSA 25 LARGEST DOLLAR VALUE CONTRACTORS IN FY 92

TOTAL RANK	CONTRACTOR/ADDRESS	NO. OF ACTIONS	DOLLARS*
1.	Information Systems & Services Metro Plaza 2 8403 Colesville Road Suite 750 Silver Spring, Maryland 20910	61	3,573,698
2.	Information Management Consultants 7915 Westpark Drive McLean, Virginia 22102	26	2,732,643
3.	Jackson Memorial Hospital 1611 North W. 12th Avenue Miami, Florida 33136	1	2,000,000
4.	The Regents of the Univ. of Michigan 475 East Jefferson Ann Arbor, Michigan 48109-1248	1	1,399,879
5.	KHRI 1516 E. Hillcrest Street Suite 200 Orlando, Florida 32802	53	1,398,419
6.	Calspan Corporation P.O. Box 400 Buffalo, New York 14225	16	1,389,178
7.	Advertising Council 825 Third Avenue New York, New York 10022	1	1,329,120
8.	Development Assistance Corporation 1415 11th Street, NW Washington, DC 20001	10	1,119,582
9.	Global Exchange, Inc. 37 South Detroit Street Xenia, Ohio 45385	9	934,235
10.	Transportation Research Center P.O. Box B-67 East Liberty, Ohio 43319	12	900,849
11.	New York State Department of Health & Human Research Corning 2nd Tower 1683 Empire State Plaza Albany, New York 12237	1	881,011

12.	Pennsylvania Department of Health Division of Emergency Medical Services P.O. Box 90 Harrisburg, Pennsylvania 17108	1	783,296
13.	National Capital Systems, Inc. 5205 Leesburg Pike #400 Falls Church, Virginia 22041	13	769,020
14.	University of Utah School of Medicine 309 Park Building Salt Lake City, Utah	1	749,145
15.	Southwest Research Institute 6200 Culebra Road San Antonio, Texas 78238	6	734,703
16.	Mid-America Research Institute 611 Main Street Winchester, Massachusetts 01890	8	719,644
17.	University of Virginia P.O. Box 9003 Charlottesville, Virginia 22906	2	707,000
18.	University of Hawaii Dept. of Urban & Regional Planning Office of Res. Administration 2540 Maile Way, Spalding Hall 253 Honolulu, Hawaii 96822	1	690,674

19.	The Washington Consulting Group 11 Dupont Circle, NW Suite 900 Washington, DC 20036	16	683,865
20.	State of Maine Maine Dept. of Public Safety 36 Hospital Street Augusta, Maine 04333	3	674,403
21.	KLD Associates, Inc. 300 Broadway Huntington Station, New York 11746	18	658,242
22.	Internat'l Assoc. of Chiefs of Police 1110 N. Glebe Road, Suite 200 Arlington, Virginia 22201	9	646,666
23.	AAMVA 1201 Connecticut Ave., NW Suite 910 Washington, DC 20036	3	596,711
24.	Computer Network System 5135 MacArthur Blvd., NW Washington, DC 20016-3387	5	590,705
25.	Indiana University Research and Sponsored Programs 355 N. Lansing Street Indianapolis, Indiana	7	569,980
		Grand Total	$27,232,668

* New Contracts and Funding Modifications

OTHER PERSONNEL COSTS

Mr. CARR. Please update the office-by-office breakdown of "other personnel" costs, similar to that shown on pages 895–896 of last year's hearing record, by deleting 1989 and adding an estimate for 1994.

[The information follows:]

(in thousand of dollars)

	1990	1991	1992	1993	1994
Rulemaking					
Overtime	7	0	0	0	0
Terminal Leave	28	12	1	1	1
Awards	68	39	55	57	57
Subtotal	103	51	56	58	58
Enforcement Program					
Overtime	22	33	37	38	38
Terminal Leave	26	26	14	15	15
Awards	60	52	58	60	60
Subtotal	108	111	109	113	113
Highway Safety Program					
Overtime	3	1	11	11	11
Terminal Leave	22	5	45	47	47
Awards	126	63	191	198	198
Subtotal	151	69	247	256	256
Research and Analysis					
Overtime	2	1	1	1	1
Terminal Leave	49	50	5	5	5
Awards	96	44	118	122	122
Subtotal	147	95	124	129	129
Office of the Administrator					
Overtime	10	4	8	8	8
Terminal Leave	0	61	13	13	13
Awards	72	42	68	71	71
Subtotal	82	107	89	92	92
General Administration					
Overtime	77	49	55	57	57
Terminal Leave	32	5	8	8	8
Awards	125	68	115	119	119
Subtotal	234	122	178	185	185
Grand Total					
Overtime	121	88	112	116	116
Terminal Leave	157	159	85	88	88
Awards	547	308	606	628	628
Subtotal	825	555	803	833	833

1992 Actual Obligations
1993 3.7% increase over 1992
1994 No increase over 1993

RECRUITMENT AND RETENTION BONUSES

Mr. CARR. Please provide for the record your estimated allocation for recruitment and retention bonuses in fiscal year 1993 and what is planned for fiscal year 1994.

[The information follows:]

There are no planned recruitment and retention bonuses for fiscal year 1993 or fiscal year 1994.

SES POSITIONS

Mr. CARR. Please provide for the record a listing of all SES positions by position title and grade.

[The information follows:]

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION SENIOR EXECUTIVE SERVICES

Position title	Grade
Executive director	ES–6
Senior assistant chief counsel	ES–1
Assistant chief counsel (litigation)	ES–4
Assistant chief counsel (rulemaking)	ES–4
Associate administrator for plans and policy	ES–5
Director, office of budget and policy development	ES–1
Director, office of strategic planning and evaluation	ES–4
Director, office of regulatory analysis	ES–2
Associate administrator for enforcement	ES–5
Director office of defects investigation	ES–2
Director, office of vehicle safety compliance	ES–4
Associate administrator for traffic safety programs	ES–5
Deputy assoc. administrator for traffic safety prog.	ES–4
Director, office of alcohol and state programs	ES–4
Director, office of occupant protection	ES–4
Director, office of program development & evaluation	ES–4
Chief, problem-behavior research division	ES–4
Associate administrator for regional operations	ES–5
Associate administrator for rulemaking	ES–5
Director, office of market incentives	ES–4
Director, office of vehicle safety standards	ES–2
Associate administrator for research and developoment	ES–5
Director, office of crashworthiness research	ES–4
Director, vehicle research and test center	ES–4
Director, national center for statistics & analysis	ES–4
Chief, accident investigation division	ES–4
Director, office of crash advoidance research	ES–4
Special assistant, technology transfer policy & prog.	ES–4
Associate administrator for administration	ES–5

SES BONUS AWARDS

Mr. CARR. Please update for the record the listing of SES bonus awards shown on pages 898–901 of last year's hearing record by providing data for 1989–1993.

[The information follows:]

SES BONUS AWARDS

Fiscal Year 1989

Barry Felrice, Associate Administrator for Rulemaking	$ 6,860
George Parker, Associate Administrator for Enforcement	6,860
Ralph Hitchcock, Director, Office of Vehicle Safety Standards	6,650
Stephen Wood, Assistant Chief Counsel (Rulemaking)	4,410
Donald Bischoff, Director, Office of Regulatory Analysis	4,410
Howard Smolkin, Executive Director	4,620
Adele Derby, Associate Administrator for Plans and Policy	4,550
Mike Finkelstein, Associate Administrator for Research and Development	4,550
George Reagle, Associate Administrator for Traffic Safety Programs	4,550
Robert Nicholson, Deputy Associate Administrator for Traffic Safety Programs	4,410
Total	$51,870

Fiscal Year 1990

Howard Smolkin, Executive Director	$ 7,200
Kenneth Weinstein, Assistant Chief Counsel (Litigation)	4,520
Donald Bischoff, Associate Administrator for Plans and Policy	6,820
Michael Brownlee, Associate Administrator for Traffic Safety Programs	4,520
George Parker, Associate Administrator for Research and Development	4,640
Barry Felrice, Associate Administrator for Rulemaking	7,020
William Boehly, Associate Administrator for Enforcement	4,520
Adele Derby, Associate Administrator for Regional Operations	7,020
Total	$46,260

Fiscal Year 1991

Howard Smolkin, Executive Director	$ 5,957
Barbara Kernan, Associate Administrator for Administration	5,754
Kenneth Weinstein, Assistant Chief Counsel (Litigation)	5,528
Donald Bischoff, Associate Administrator for Plans and Policy	12,553
Michael Brownlee, Associate Administrator for Traffic Safety Programs	5,754
James Nichols, Director, Office of Occupant Protection	8,342
George Parker, Associate Administrator for Research and Development	5,754
Barry Felrice, Associate Administrator for Rulemaking	5,754
William Boehly, Associate Administrator for Enforcement	5,754
Adele Derby, Associate Administrator for Regional Operations	12,553
Total	$73,703

Fiscal Year 1992

Howard Smolkin, Executive Director	$ 9,080
William Boehly, Associate Administrator for Enforcement	8,772
Donald Bischoff, Associate Administrator for Plans and Policy	5,523
Barry Felrice, Associate Administrator for Rulemaking	5,523
Adele Derby, Associate Administrator for Regional Operations	5,523
Michael Brownlee, Associate Administrator for Traffic Safety Programs	5,523
James Hedlund, Director, Office of Alcohol and State Programs	5,304
James Nichols, Director, Office of Occupant Protection	5,304
Kenneth Weinstein, Assistant Chief Counsel (Litigation)	5,304
William Leasure, Director, Office of Crash Avoidance Research	5,304
Robert Shelton, Director, Office of Regulatory Analysis	4,590
William Walsh, Director, National Center for Statistics and Analysis	5,304
Stephen Wood, Assistant Chief Counsel (Rulemaking)	5,304
Total	$76,358

NOTE: Performance is evaluated for one fiscal year, and the actual bonus payments are made early during the subsequent fiscal year. The above table shows bonuses according to performance periods.

PERMANENT CHANGE OF STATION DATA

Mr. CARR. Please update the data on permanent change of station moves as shown on page 902 of last year's hearing record.

[The information follows:]

PERMANENT CHANGE OF STATION

Fiscal year moves	Amount budgeted	Number of moves	Average cost per move
1990	$200,000	10	$18,535
1991	200,000	3	15,733
1992	200,000	1	3,000
1993 est	120,000	6	20,000
1994 est	120,000	6	20,000

PERMANENT CHANGE OF STATION FUNDING

Mr. CARR. What has been spent for permanent change of station moves to date in fiscal year 1993?

[The information follows:]

No funds have been spent to date in fiscal year 1993 for permanent change of station moves.

COMPUTER SUPPORT FUNDING

Mr. CARR. Last year, $1.6 million was requested for computer support. This year, no specific amounts are identified in the justifications for computer enhancements. What amounts are included in the base budget for computer operations, maintenance and enhancements to your existing automated systems?

[The information follows:]

The fiscal year 1994 request for computer support is $2.14 million, compared to the fiscal year 1993 appropriated amount of $2.15 million. Included in the fiscal year 1994 request is $1.91 million for computer operations and maintenance. This amount represents fixed, operational costs to operate and maintain the agency's current information resource management (IRM) system. An additional $230 thousand is to be used to support minimal improvements in IRM operations. These expenditures will support improving access of agency personnel to correspondence, records and agency data.

FIELD OFFICE SPACE RENTAL

Mr. CARR. You are including $479,000 for field office space rental in your operating expenses. Why haven't these funds been consolidated into the OST account for rental payments to GSA?

[The information follows:]

In the FY 1994 budget request, $479 thousand is included for regional office operating expenses. However, no funds are included in this amount for making rental payments to GSA.

Rental payments made to GSA have been consolidated into the OST account. These payments cover the rental costs of all NHTSA's headquarters building space as well as the building space for nine regional offices. Payments are not made to GSA for the regional office located in Cambridge, Massachusetts, because the building is owned by the Department of Transportation.

In addition to these office facilities, NHTSA continues to pay lease costs for two special purpose test facilities that are not owned or managed by GSA. These facilities are the Vehicle Research and Test Center, which supports the vehicle research program, and the San Angelo tire test facility, which implements the uniform tire quality grading program.

ADMINISTRATOR'S OFFICE ORGANIZATION REPORT

Mr. CARR. In the Committee's report on the fiscal year 1993 bill, we directed NHTSA to submit a report by March 1 on the organization and staffing of the Administrator's office. Please provide a copy of the report for the hearing record.

[The information follows:]

U.S. Department of
Transportation

Assistant Secretary
for Administration

400 Seventh St., S.W.
Washington, D.C. 20590

April 22, 1993

The Honorable Bob Carr
Chairman, Subcommittee on Transportation
Committee on Appropriations
U.S. House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

In response to House Report No. 102-351 and Senate Report No. 102-639 accompanying the Department of Transportation and Related Agencies Appropriations Act, 1993, enclosed is the Office of the Secretary's review of the staffing of the National Highway Traffic Safety Administration Office of the Administrator.

An identical letter has been sent to Chairman Lautenberg.

Sincerely,

Jon Seymour

Jon H. Seymour

Enclosure

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

OFFICE OF THE ADMINISTRATOR STAFFING

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
OFFICE OF THE ADMINISTRATOR STAFFING

EXECUTIVE SUMMARY

As directed by the House and Senate Appropriations Committees, the Office of the Secretary of Transportation has reviewed the staffing of the National Highway Traffic Safety Administration (NHTSA) Office of the Administrator. The review addressed current organizational structure and staffing, number of senior staff, clerical-to-professional staff ratio, and salary structure. Also, the structure and staffing of the Office of the Administrator was compared with that of other civilian operating administrations (OAs) in the Department of Transportation (DOT).

Conduct of this review involved discussions with NHTSA officials and examination of position descriptions and other organizational information.

In addition to the Administrator and Deputy Administrator, the Office of the Administrator includes the following units: the Office of Civil Rights, the Office of Public and Consumer Affairs, the Director of International Harmonization, the Director of Intergovernmental Affairs, and the Executive Director.

From the standpoint of NHTSA's size and mission responsibilities, both the structure of the Office of the Administrator and the functions located there were found to be appropriate.

Although civil rights, executive secretariat, and public affairs functions are common to all OAs, these three functions are found in a variety of locations in departmental OAs. To compare NHTSA with other organizations, the review included examination of organizational and staffing information for other DOT Administrators' offices and similar functions.

NHTSA has over 30 positions assigned to the Office of the Administrator. Comparison of the OAs' total staffing for functions located in the NHTSA Administrator's office shows that NHTSA's staffing size is comparable to that of other OAs. Similarly, examination of the grade levels for heads of functions in NHTSA's Administrator's office with grade levels in the Department's comparable organizations demonstrates that NHTSA's grade levels are appropriate. Also, NHTSA has a lower clerical-to-professional staff ratio than most other OAs.

INTRODUCTION

This report details the organizational structure and staffing of the NHTSA Office of the Administrator as requested by the Senate and House Appropriations Committees in their reports on the FY 1993 DOT appropriations act.

This review also includes, as requested, current information on the number of senior staff, clerical-to-professional staff ratios, subordinates with salaries greater than those of their supervisors, and distribution of positions in the Office of Public and Consumer Affairs. Staffing levels for particular functions in NHTSA and other OAs are also examined.

ORGANIZATIONAL STRUCTURE AND STAFFING

An understanding of NHTSA's mission is helpful in analyzing the structure and staffing of the Office of the Administrator. The administration is primarily a safety agency and is identified to a greater extent than any other departmental component as a consumer-oriented agency. NHTSA's safety responsibilities include the setting of Federal motor vehicle safety standards and leadership in areas such as anti-drunk and drugged driving programs, emergency medical services, traffic law enforcement, and safety research and data analysis. The organization is also responsible for a variety of regulations and activities to assist motorists, including anti-theft regulations, fuel economy regulations, tire quality grading, odometer-tampering regulations, and the New Car Assessment Program.

Programs located throughout the organization are of interest to consumers. Consumer information activities pertinent to these programs are centralized in the Office of Public and Consumer Affairs, which is a part of the Office of the Administrator.

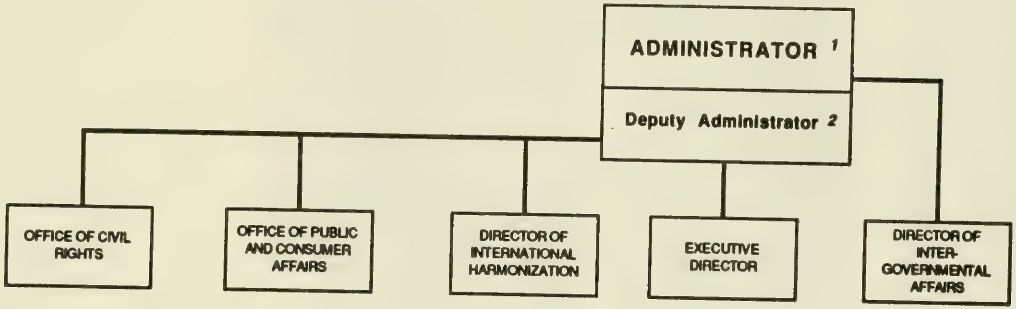
NHTSA works with its counterparts in other countries and international standards organizations to obtain compatible international standards for motor vehicles. As a practical matter, the organization has established a single point of contact for international harmonization activities. This organization is also located in the Administrator's office, as are the executive secretariat, intergovernmental affairs, and civil rights functions.

The current organizational structure and staffing of the Office of the Administrator are shown on the following chart.

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

ORGANIZATION AND FULL TIME PERMANENT POSITIONS IN THE OFFICE OF THE ADMINISTRATOR

as of 2/11/93


ADMINISTRATOR 1
Deputy Administrator 2
OFFICE OF CIVIL RIGHTS
OFFICE OF PUBLIC AND CONSUMER AFFAIRS
DIRECTOR OF INTERNATIONAL HARMONIZATION
EXECUTIVE DIRECTOR
DIRECTOR OF INTER-GOVERNMENTAL AFFAIRS

Director	GM-15
Equal Opportunity Spec.	GS-14
Equal Opportunity Spec.	GS-07
Secretary	GS-06

Director	GM-15 *
Deputy Director (Supv. Public Affairs Spec.)	GM-15
Secretary	GS-07
Public Affairs Div. Chief (Supv. Public Affairs Spec.)	GM-14
Public Affairs Spec.	GS-13
Public Affairs Spec.	GS-11
Public Affairs Asst.	GS-06
Consumer Affairs Div. Chief (Supv. Consumer Info. Spec.)	GM-14 *
Public Affairs Spec.	GM-14
Writer-Editor	GS-12
Public Affairs Spec.	GS-12
Public Affairs Spec.	GS-11

Director	GM-15
Secretary	GS-08

Executive Director	ES-6
Executive Staff Asst.	GS-10

Director	GM-15 *

1	Administrator	EL III *
	Special Assistant	GM-14 *
	Staff Assistant	GS-12
	Staff Assistant	GS-11
	Correspondence Supv.	GS-10
	Correspondence Analyst	GS-07
	Correspondence Analyst	GS-07
	Correspondence Analyst	GS-07 *
	Correspondence Clerk	GS-05
	Correspondence Clerk	GS-04 *
2	Deputy Administrator	ES *
	Secretary	GS-10 *

* Vacant

Immediate Office of the Administrator. The Administrator's immediate staff includes a total of nine full-time permanent (FTP) positions. Six of these are devoted to the executive secretariat function. The Administrator also has a special assistant and two staff assistants. The Chief Counsel and the Director of Intergovernmental Affairs report to the Administrator, but are not considered immediate staff.

The correspondence handled by the executive secretariat includes material regarding safety defects, NHTSA programs and policies, congressional inquiries, and general inquiries. An internal study conducted several years ago noted that NHTSA receives the highest volume of consumer correspondence of all OAs.

The special assistant handles the flow of paper to the Administrator and ensures that management and administrative needs are met. One staff assistant serves as director of the executive secretariat function and handles a wide variety of additional functions, and another handles duties including coordination of travel plans requiring the Administrator's approval.

Deputy Administrator. The Deputy Administrator assists and has authority to act for the Administrator. The Deputy Administrator aids the Administrator in providing executive direction to all organizational elements.

The Deputy Administrator has direct supervision over the Executive Director and the Directors of the Office of Civil Rights, Office of Public and Consumer Affairs, and Office of International Harmonization. The Director of Intergovernmental Affairs reports directly to the Administrator. The Associate Administrator for Regional Operations also reports to the Deputy Administrator. The Deputy Administrator's staff consists of a secretary responsible for secretarial duties, office administration, and scheduling.

Office of Civil Rights. The office is responsible for civil rights and equal opportunity matters in the organization and its programs. This includes evaluation of equal opportunity matters in NHTSA's employment practices, in the employment practices of NHTSA's contractors and subcontractors, and in NHTSA's assistance programs. This office includes the Director and staff of two professionals and one secretary.

Office of Public and Consumer Affairs. This office is the largest component of the Administrator's office with a total of 12 positions. In addition to the Director, the office has a Deputy, a secretary, and nine staff members. A recent reorganization of the Office of Public and Consumer Affairs reduced the number of divisions from three to two, and distributed nine positions between the divisions. The Director and Deputy supervise the Public Affairs' and Consumer Affairs' Division Chiefs.

The Office of Public and Consumer Affairs is a very important organization because of NHTSA's strong consumer focus, especially in the areas of safety belt and child safety seat use, alcohol and drug programs, Federal motor vehicle safety standards, consumer information programs, tire quality grading, anti-theft and odometer tampering standards, and fuel economy standards. NHTSA requires a sizeable media and consumer affairs staff because of the interest of citizens in vehicle-related matters and the national interest in highway safety. The functions of the Office of Public and Consumer Affairs include responding to press calls and arranging interviews, preparing news clips and news releases, maintaining a library of audio and video tapes, managing media events, and serving as a liaison with consumer groups.

The office also produces a variety of publications and graphics, including annual reports, consumer fact sheets, briefing slides, and the employee newsletter. In addition, the office negotiates contracts with the Advertising Council to produce well known public service ads such as the "Vince and Larry" campaign and other public relations activities.

The broad public interest in highway and vehicle safety is well served by NHTSA's high level focus on public and consumer affairs and by the location of these functions in the Administrator's office.

Director of International Harmonization. This unit has two positions, the Director and a secretary. The Director works with the rulemaking and chief counsel organizations and with national and international standards organizations to obtain the maximum degree of compatibility among vehicle standards. Compatibility is useful to domestic and international manufacturers and to safety and customs officials, as well as consumers in the global marketplace. This office is the single point of contact for international standards work and is a benefit to concerned international and domestic organizations because it simplifies their means of doing business with NHTSA.

This function was placed in the Administrator's office to enhance its visibility, emphasize the importance assigned to international harmonization, and simplify international standards organizations' contacts with NHTSA. Previously this function was located in the Office of Associate Administrator for Rulemaking.

Executive Director. This office has two positions, the Executive Director and a staff assistant. The Executive Director provides advice, guidance, and direction to six associate administrators who report through him to the Deputy Administrator. The Executive Director also participates as a member of the Administrator's staff in determining NHTSA program policies, objectives, and priorities. Through his supervision of the Associate Administrator for Administration, the Executive Director is responsible for the personnel management responsibilities for NHTSA's staff of professional, technical, administrative, and clerical employees ranging from the General Schedule (GS) grades to the Senior Executive Service.

The Executive Director's staff assistant is responsible for scheduling and coordinating meetings and conferences for the Administrator and others and for handling telephone inquiries and correspondence.

Intergovernmental Affairs. This unit has one position, that of the Director. The Director works with congressional committees, other Federal agencies, the National Governors' Association, the Council of State Governments, and other organizations on matters such as state laws regarding driving under the influence of alcohol and use of occupant restraints. The complex relationships between NHTSA's programs and those of other agencies necessitate a high level focus for intergovernmental affairs. Among the other Federal agencies with joint or overlapping authority are the Environmental Protection Agency and Energy Department on fuel regulations; the Federal Trade Commission on consumer information, theft standards, and odometer standards; and the Justice Department on anti-theft efforts.

For several reasons, the Office of the Administrator is a logical location for NHTSA's executive secretariat, civil rights, public and consumer affairs functions as well as its intergovernmental affairs and harmonization functions. For public and consumer affairs, location in the Office of the Administrator concentrates at a high level NHTSA's consumer activities which are critical to the organization's mission. For harmonization and intergovernmental affairs, location in the Administrator's office simplifies coordination and provides convenience not only for the public, but also for NHTSA's program offices. Location of the executive secretariat function in the Administrator's office is the norm for the Department's OAs due to the importance of correspondence management. The location of the small civil rights office in the Office of the Administrator highlights the importance of this function.

COMPARING NHTSA WITH OTHER OPERATING ADMINISTRATIONS

The heads of DOT OAs have considerable latitude in organizing their operations. Differences with respect to mission, program responsibilities, total staffing, and field staffing are some of the factors which contribute to variety among the structures of DOT's organizations.

Most of the OAs' civil rights offices are not located in the Administrator's office. NHTSA and the Federal Railroad Administration (FRA), two of the Department's smallest OAs, do locate civil rights staffs in the Administrators' offices. This is appropriate to their organizations because of the small size of their civil rights staffs. The organizations that have separate civil rights offices have larger civil rights staffs.

FRA and NHTSA also locate the public affairs functions in the Administrator's office, although most of the Department's OAs do not. In the case of FRA, the function has a small staff and could not support a separate office. The case of NHTSA is different. Here the importance of the function and its critical relation to the organization's safety and other consumer-oriented missions are emphasized by its location in the Administrator's office.

Administrators' Offices. NHTSA was compared with other OAs in terms of FTP, on-board staffing in the Administrators' offices. The FRA Administrator's office is similar to NHTSA's in terms of staffing and functions located there. Relative to most other OAs of comparable size, NHTSA has a large Administrator's office. The size of this office results from the inclusion of the executive secretariat, civil rights, and public affairs functions. If the smaller OAs such as the Research and Special Programs Administration and the Maritime Administration were to locate these functions in the Administrators' offices, staffing levels for their Administrators' offices would range from 25-30 FTPs, which is comparable to the staffing of NHTSA's Administrator's office. The similarity between NHTSA's staffing and other OAs' staffing for these functions supports the appropriateness of NHTSA's staffing levels.

Senior Staff. The Federal pay and grade structure ranges from GS-1 through Executive Schedule (ES). For purposes of this study, positions graded at GM-15 and ES were defined as senior staff. In NHTSA, in addition to the Administrator and the Deputy Administrator, there are six staff positions in the Office of the Administrator at grades 15 and above. The following chart depicts these positions and grade levels.

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
SENIOR STAFF POSITIONS IN THE OFFICE OF THE ADMINISTRATOR

POSITION	GRADE LEVEL
Executive Director	ES-6
Director, International Harmonization	GM-15
Director, Office of Civil Rights	GM-15
Director, Office of Public and Consumer Affairs	GM-15
Deputy Director, Office of Public and Consumer Affairs	GM-15
Director of Intergovernmental Affairs	GM-15

Five of the positions above are directors of individual offices or staff functions. The sixth is a deputy for the largest component, the Office of Public and Consumer Affairs.

Grade Structure. To compare NHTSA's grade structure with that of other organizations, the review included examination of grade levels for the positions responsible for the executive secretariat, civil rights, and public affairs functions in DOT's civilian organizations of similar size. These functions are common to all OAs.

EXECUTIVE SECRETARIAT, CIVIL RIGHTS, AND PUBLIC AFFAIRS
COMPARISON OF GRADE LEVELS FOR HEADS OF THESE FUNCTIONS

ORGANIZATION	EXECUTIVE SECRETARIAT	CIVIL RIGHTS	PUBLIC AFFAIRS
FRA	GM-14	GM-15	GM-15
NHTSA	**GS-12**	**GM-15**	**GM-15**
FTA	GM-15	GM-15	GM-15
MARAD	GM-15	GM-15	ES
RSPA	GS-12	GM-15	GM-14

The grades for the directors of NHTSA's civil rights, executive secretariat, and public affairs functions compare well with similar organizations. As shown in the chart above, NHTSA grade levels for positions responsible for civil rights (GM-15) and public affairs (GM-15) parallel grades in the smaller DOT OAs. The grade level for the position charged with NHTSA's executive secretariat function (GS-12) is somewhat lower than the designated grade level of this position in most DOT organizations.

Clerical Staff. In the Federal white collar personnel system, positions typically fall into one of four categories, professional, administrative, clerical, or technical. In conducting this study, clerical positions in the Administrators' offices were compared to professional, technical, and administrative positions. Excepting the Saint Lawrence Seaway Development Corporation, on-board staffing of the Administrators' offices at the time of this study varied from a low of 3 positions to a high of 26 positions in accordance with the functions located there. In comparing the ratio of clerical to other positions in the Administrators' offices, NHTSA's Administrator's office was found to have a 1:4.2 ratio of clerical to other staff. This ratio is the second lowest among the organizations studied.

Salary Structure. Within the Federal classification system, supervisors of three or more employees are normally classified one grade higher than their subordinates. For each grade in the Federal service, there is a broad pay range. The pay range for any given grade overlaps with the pay range for the next higher and next lower grades.

Supervisors usually have higher salaries than the employees they supervise. Pay for a GS/GM-14 ranges from $56,627 to $73,619, and pay for a GS/GM-15 ranges from $66,609 to 86,589. Thus, senior employees at a lower grade level may have larger salaries than their higher graded supervisors. The normal time period it takes to move from Step 1 to Step 10 of any GS pay grade is 18 years.

In NHTSA, the Director of the Office of Civil Rights is a GM-15 employee at the lower end of the pay range for that grade. His GS-14 subordinate has long tenure at that grade; thus, the subordinate's salary is higher than that of his supervisor.

Prior to the recent transition, there were two additional examples in the Office of the Administrator of a subordinate earning more than his supervisor. In one case, the Deputy Administrator had a lower salary than the Executive Director who reported to him, due to their different ES levels. Management officials have considerable latitude to use ES pay flexibly, incorporating in their decisions such factors as expertise brought to a position as well as duties and responsibilities of a position and its location in an organization. In the other case, both the Director and Deputy Director of the Office of Public and Consumer Affairs were GM-15s, and the Deputy Director earned more than the Director due to tenure differences. Each position was classified as a GM-15.

CONCLUSIONS

NHTSA has over 30 positions assigned to the Office of the Administrator. The organization has located its executive secretariat, civil rights, and public affairs functions as well as its intergovernmental affairs and international harmonization functions there.

Comparison of NHTSA's staffing for the civil rights, executive secretariat, and public affairs functions with the staffing for the Office of the Administrator and for the same functions in the other civilian OAs shows NHTSA's level of staffing to be similar.

Intergovernmental affairs and international harmonization are two functions that can benefit and gain effectiveness with an Office of the Administrator level location. These functions involve interagency and international work which requires considerable coordination. Having a high level focal point for these functions simplifies coordination requirements. Thus the Administrator's office is the proper location for intergovernmental affairs and international harmonization.

The recent reorganization of the Office of Public and Consumer Affairs has eliminated an earlier imbalance in the distribution of public affairs specialists. The public affairs specialists are now distributed evenly between the public affairs and the consumer affairs divisions.

A comparison of the grade levels for the heads of the executive secretariat, civil rights, and public affairs functions reveals that NHTSA's grade levels parallel those of the other OAs. Similarly, a comparison of clerical-to-professional staff ratios in the offices of the Administrators reveals NHTSA's ratio to be lower than that of most OAs. Finally, the structure of the Federal pay system occasionally results in a subordinate earning more than his or her supervisor. Under the Federal pay and classification system, it is appropriate for a senior level subordinate to earn more than a supervisor with less time in grade.

In summary, after detailed consideration and comparison we consider the staffing and functions of the NHTSA Office of the Administrator to be appropriate.

AUTHORIZING LEGISLATION FOR FY 1994

Mr. CARR. Please identify any components of your budget request for fiscal year 1994 which lack authorizing legislation or are contingent on the passage of new authorizing legislation.

[The information follows:]

No components of the agency's budget request for fiscal year 1994 lack authorizing legislation or are contingent on the passage of new authorizing legislation.

ADPE ACCOUNTABILITY

Mr. CARR. Last year, the Inspector General recommended that accountability controls over automatic data processing equipment (ADPE) within NHTSA needed to be strengthened and rigorously enforced. The IG concluded that "NHTSA has lost accountability, through poor recordkeeping, for ADPE worth thousands of dollars—which in turn has substantially increased the agency's vulnerability to equipment loss, theft, or misuse." Please address how you are correcting these problems.

[The information follows:]

Actions on all Inspector General recommendations addressed in this audit report have been completed. In addition to these actions, the agency has completed a wall-to-wall inventory and has centralized inventory management. All receipt, movement and excessing of property is controlled by a single property office. Interim property control procedures have been issued and training is being scheduled for property custodians to ensure agency accountability of property. Requirements are being established for a new automated property management system utilizing bar coding capability to assist during annual inventories. New procedures are being established to ensure full compliance with General Services Administration and Office of the Secretary of Transportation procedures. These changes will increase control over agency property.

IG ISSUES

Mr. CARR. In recent years the IG has identified significant issues regarding NHTSA's ability to properly account for and dispose of property (i.e. microcomputers, test vehicles). What actions have you taken to address the problems identified by the IG?

[The information follows:]

During the past six months the agency has completed a wall to wall inventory and has centralized inventory management. All receipt, movement and excessing of property is controlled by a single property office. Interim property control procedures have been issued and training is being scheduled for property custodians to ensure agency accountability of property. Requirements are being established for a new automated property management system utilizing bar coding capability to assist during annual inventories. New procedures are being established to ensure full compliance with General Services Administration and Office of the Secretary of Transportation procedures. These changes will help safeguard the agency's property.

IG: CIVIL MONETARY PENALTY PROCESS

Mr. CARR. As part of a departmental review of civil monetary penalties, the IG conducted recently an audit of the processing and collection of monetary penalties by NHTSA. The IG found that NHTSA did not properly record $82 million in civil penalties proposed and/or collected during the review period and that NHTSA needs to improve its controls over the civil monetary penalty process. Please discuss your response to the IG's recommendations and tell us what implementation steps have been taken.

[The information follows:]

The agency did not agree with the Inspector General's finding regarding the establishment of accounts receivable at the time of issuance of letters proposing settlement of civil penalty cases and when advising automobile manufacturers of possible civil penalty liability under the corporate average fuel economy provisions. The agency maintains that the penalty letters are not an assessment and do not establish a debt upon the manufacturers or an asset of the United States. Therefore, the agency did not agree to establishing formal accounts receivable in our accounting system. However, the agency agreed to establish memorandum accounts in the Office of Financial Management when these letters are sent. This procedure was satisfactory to both the agency and the Inspector General.

Other Inspector General recommendations are being or have been addressed by revising agency procedures to ensure complete control of the civil penalties. The agency has revised its procedures requiring the use of wire transfers and has changed the penalty letters directing the manufacturers to submit payment directly to the Office of Financial Management. Although the agency utilized informal procedures to control these payments, formal procedures are being written at this time.

THURSDAY, APRIL 22, 1993.

FEDERAL HIGHWAY ADMINISTRATION

UNITED STATES GENERAL ACCOUNTING OFFICE

WITNESSES

KENNETH M. MEAD, DIRECTOR, TRANSPORTATION ISSUES, RESOURCES, COMMUNITY, AND ECONOMIC DEVELOPMENT DIVISION, UNITED STATES GENERAL ACCOUNTING OFFICE

GARY L. JONES, ASSISTANT DIRECTOR, TRANSPORTATION ISSUES, UNITED STATES GENERAL ACCOUNTING OFFICE

FEDERAL HIGHWAY ADMINISTRATION

E. DEAN CARLSON, EXECUTIVE DIRECTOR

ANTHONY R. KANE, ASSOCIATE ADMINISTRATOR FOR PROGRAM DEVELOPMENT

DENNIS C. JUDYCKI, ASSOCIATE ADMINISTRATOR FOR SAFETY AND SYSTEM APPLICATIONS

JOHN A. CLEMENTS, ASSOCIATE ADMINISTRATOR FOR RESEARCH AND DEVELOPMENT

GEORGE S. MOORE, ASSOCIATE ADMINISTRATOR FOR ADMINISTRATION

MADELEINE S. BLOOM, DIRECTOR, OFFICE OF POLICY DEVELOPMENT

JOHN P. EICHER, DIRECTOR, OFFICE OF PROGRAM MANAGEMENT SUPPORT, MOTOR CARRIERS

OPENING REMARKS

Mr. CARR. Good morning. The Committee will come to order, today we will hear testimony on the programs and activities of the Federal Highway Administration.

We will start this morning with a statement by Mr. Ken Mead of the General Accounting Office. He is the Director of transportation resources within the Resources, Community, and Economic Development Division.

This is Mr. Mead's third appearance before the Subcommittee this week alone. We greatly appreciate the work that he and his staff have performed for us. Most people who prepare testimony for one—on one topic for one day of hearing—can appreciate the work that has gone into having Mr. Mead up and ready for three days in a row.

Following the GAO statement, we are going to be hearing from the officials of the Federal Highway Administration. The principle witness will be the Executive Director of the FHWA, Dean Carlson who is known very well to the Committee. We have a lot of ground to cover. The FHWA's budget of $20.59 billion represents about half the total budget for the Department of Transportation. Of course, the largest part of the FHWA budget is the Federal-aid highway program. We will have a lot of questions about that.

Mr. Mead, your statement will be included in the record, and perhaps you would like to summarize and then we can get to some questions.

STATEMENT OF KENNETH MEAD

Mr. MEAD. Thank you, Mr. Chairman, Mr. Foglietta.

I would like to introduce Gary Jones, our Assistant Director in Surface Transportation. She is the focal point for all of the GAO work in the surface transportation area.

Just a reference to your remark about the testimony schedule this week, it has been demanding but in many ways you develop a healthy respect for what Members of Congress have to go through in terms of shifting gears. I will be covering just three issues today, Mr. Chairman: highway finance, demonstration projects, and investment decision-making.

HIGHWAY FINANCE

On highway finance, using FHWA's April 1993 projections, income to the highway account of the trust fund will fall about $10 billion short of outstanding authorizations over the life of ISTEA. We have some handouts in front of you, the first of which depicts that.

That shortfall is calculated using a couple of assumptions that I should mention. One is the current administration projections for revenues to the trust fund, primarily the gas tax revenues. And secondly, it is predicated upon the proposal for full funding of ISTEA, and if the news accounts are correct, the status of that at least for this fiscal year is a bit uncertain.

The shortfall is calculated using a safeguard that is known as the Byrd amendment. Now the Byrd amendment is not named after the incumbent Senator Byrd. It is named after Harry Byrd, Senator Harry Byrd of Virginia.

And Senator Byrd, at the time, set up a test that, as revised in 1982, requires that outstanding authorizations to be paid from the highway account not exceed the cash balance plus the next two succeeding years' of revenue. The reason for that is that all the bills don't come due right away, so it seemed fair not to require the current cash balance to pay the total amount due, but to stretch it out over a period of time and a period of time chosen was two years. The Byrd Amendment requires FHWA to cut state apportionments in the event of a shortfall. Under current projections, this would mean cuts of several billion dollars each year starting in fiscal year 1995. There are some options to prevent these cuts.

The most effective option would be to credit the highway account with two cents of the 2.5 cents of the fuel tax that is currently going to the general fund. The administration's budget would eliminate the projected shortfall by discontinuing the crediting of the 2.5 cents to the general fund and would send two cents of that to the highway account and a half a cent to the transit account starting in fiscal year 1996.

Even if the stimulus package does not go through this year and ISTEA is not fully-funded, the shortfall will fall from $10 billion to about $7 billion, so you will still have a fairly sizable problem. It is quite critical you get that two cents going into the highway account, otherwise I don't envy the task facing this subcommittee.

I would also point out that eliminating the shortfall sounds like the end of the story, but we are actually facing a period of uncertainty for a number of reasons. The highway account's financial well-being is going to deserve very close monitoring even if the 2.5 cents goes to the overall trust fund.

Specifically, the highway account's projected revenue stream has varied widely, and that is an understatement, over the past year. The second item in your handout demonstrates those swings.

We have four years to go in this authorization, but in the past year alone we have seen projected revenues to the trust fund decline by about $9 billion. That caused the highway account's projected condition to swing, as this chart shows, from a $2.7 billion surplus in January of 1992 to a $12.5 billion shortfall estimated just one year later. Now three months later we are saying, well, the shortfall will be about $10 billion. Most of that swing is attributable to changes in economic growth projections.

DEMONSTRATION PROJECTS

I would like to turn to demonstration projects for a couple of moments. ISTEA's demonstration project authorization was unprecedented, $6.2 billion for 539 projects. In 1987, the authorization was for $1.3 billion for 152 projects. And in 1982, it was only $373 million. Thus, the trend for demonstration projects has risen dramatically from $373 million in 1982 to about $6.2 billion in 1991.

And that does not count the demonstration projects added each year by the appropriations process.

The trust fund, Mr. Chairman, just can't afford to support this trend. Extreme caution is going to need to be exercised in authorizing the new projects for several reasons.

In 1991 we did an analysis of the projects authorized in 1987. It seemed fair to use that time frame since several years have gone by and you can take about a 20–20 hindsight snapshot of what has happened. We determined that there are really several serious problems here.

First, demonstration projects are often authorized at only a fraction of their real cost. For example, ISTEA's authorization for demonstration projects is probably going to cover only about 25 percent of their total cost. Someone is going to have to come up with about $25 billion if they are all going to be completed.

The second problem is that the projects tie up funds that States could use for other purposes. Clearly, there are exceptions, and I am speaking very generally, but our work has shown that demos can languish in the early development stages and not get under way at all. Of 66 projects reviewed in 1991, a third had not been started four years after they were authorized in 1987.

Third, and again there are exceptions, demos are frequently not aligned with State transportation plans. Less than half of the demos appeared on State or regional plans in 1987 and that pattern was repeated in 1991. Only half of the ones in ISTEA appeared in State plans. Fourth, the authorization of demonstration projects draws down funds that would otherwise be available to States under the core federal-aid program categories.

And finally, funds for demos may never be obligated. The State for whom the project was authorized will always have that money sitting there. The money remains available in perpetuity. That is much different from the way funds for the normal State apportionments are treated, because normally States have four years to obligate funds. There is no such rule for demonstration projects. So on the basis of these concerns, we think that the time has come to develop a framework to guide how demos are selected. And we have some suggestions, but none of them are locked in concrete and they are offered more in the spirit of food for thought.

The third page of your handout mentions several key options.

One option for consideration would be to require that the projects appear in existing State transportation plans, although you may want to have a safety valve for special cases.

A second is to consider a project's capacity to promote multiple national objectives like meeting research needs, improving air quality, conserving energy, and enhancing mobility for persons with disabilities.

I might note at this point that almost $100 million in funds for the 1991 demonstration projects weren't for any individual project at all. These funds were just made available for any highway project that a given State wanted to undertake.

A third option is to consider requiring a financing plan that would contain things like the estimated total cost of the project; what the committed funding sources from the State are likely to be, since many of these projects aren't getting under way probably in part for that reason; and a rough completion time frame.

We think that a process that includes those three key elements would be likely to generate better information about a project's priority, its feasibility, and its relative importance.

Now, on the fourth page of the handout, there are two other options related to funding demonstration projects. One is to eliminate project-specific authorizations. This may be of limited appeal because it would give the State discretion to go with a given project or not go with that project. It would be more of a sense of Congress that this would be a good project for the State to pursue.

The second one, though, may be more practical. From a funding perspective, as I was mentioning earlier, current law allows project funds to remain unused in perpetuity. That could be changed by creating a "use-it-or-lose-it" situation that could provide for redistribution of funds if they are not obligated within four years. That would put the demos on the same footing as most other highway programs: four years.

INVESTMENT DECISION-MAKING

I would like to turn to ISTEA's funding flexibility provisions for a moment. I believe you know that the terms of ISTEA's funding flexibility allows States to use Federal funds flexibly to finance highway, transit, and nontraditional projects like HOV lanes. The first year of implementation may not be the best barometer of the future, but to date the use of funding flexibility has been limited.

In 1992, about 3 percent of the flexible highway funds or about $350 million were used to finance mass transit and nontraditional projects like HOV lanes. The majority of transfers occurred in New York, New Jersey, Massachusetts, Illinois, and Virginia.

A couple of factors seem to be limiting the use of flexible provisions. One is that most States limit the use of the State fuel tax to highway projects. A second one is that both highways and mass transit have needs that far exceed their available resources.

Looking to the future, Mr. Chairman, I know of your and the subcommittee's keen interest in thinking through an investment's potential before you lock in and make the investment. That has become amply clear this week. We talked about it in the context of the Federal Aviation Administration, the Coast Guard, and today, FHWA. There are some major targets of opportunity here for the Department of Transportation. Making investment trade-offs among projects within a mode as well as between modes is becoming increasingly important, but the state-of-the-art for doing this is not well advanced in this country.

For example, most travel demand models were developed 20 or 30 years ago and they are not well suited for today's transportation environment where we are trying to focus on improving clean air. Officials from 10 States and nine metropolitan planning organizations that we contacted cited problems in this area. They said they needed help and we believe that improvements also are needed here.

FHWA has begun an effort in this area to identify improvements. We think that this is a most important step for promoting cost beneficial investments to ensure the right mix of transportation projects. We will be glad to answer any questions. Thank you.

[The prepared statement of Kenneth Mead follows:]

United States General Accounting Office

GAO

Testimony

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Committee on Appropriations,
United States House of Representatives

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SURFACE TRANSPORTATION

Budget Issues and Optimizing Investment Returns

Statement of Kenneth M. Mead,
Director, Transportation Issues,
Resources, Community, and Economic
Development Division

Mr. Chairman and Members of the Subcommittee:

We are pleased to have this opportunity to testify on key issues affecting the implementation of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and the results of some of our past and ongoing work in the area of surface transportation infrastructure. Weighing alternate surface transportation investment choices is becoming increasingly complex because decision makers need to address the deterioration of the nation's roads, bridges, and transit systems; traffic congestion; air quality; energy efficiency; and mobility for the elderly and disabled.

ISTEA authorized an unprecedented level of funding to help meet transportation needs and also gave state and local governments more flexibility to determine how funds should be distributed between highway and transit projects. Our testimony today will address (1) the variability in the projected financial condition of the Highway Trust Fund, (2) the potential ramifications of authorizing new demonstration projects, (3) the use of funding flexibility, and (4) the need for improved analytic tools for making investment choices. In summary:

-- The financial outlook for the highway account of the Highway Trust Fund has worsened since the enactment of ISTEA. Revenues to the account are expected to fall $10.1 billion short of ISTEA's funding commitment to the states, according to April 1993 projections developed by the Federal Highway Administration (FHWA). Since the enactment of ISTEA, the projected financial condition of the highway account at the end of the ISTEA authorization period has varied, from a $2.7 billion surplus estimated in January 1992 to a $12.5 billion shortfall estimated 1 year later. Crediting the highway account with a substantial portion of the 2.5-cent per gallon fuel tax that currently is credited to the General Fund to offset the federal deficit, as recommended in the President's fiscal year 1994 budget, would eliminate the projected shortfall. However, because the solvency of the highway account will remain a close call, careful monitoring of the highway account's financial status will continue to be necessary.

-- ISTEA authorized 539 demonstration projects which accounted for over $6.2 billion of the total authorization. While some demonstration projects address critical transportation problems and can be considered nationally significant, authorizing a large number of new demonstration projects could be problematic for a number of reasons. First, the financial problems of the highway account would be exacerbated because demonstration projects often cost more than expected, which may necessitate the authorization of additional federal funds. Second, demonstration projects can yield a low payoff for a variety of reasons, including the fact that they frequently are not aligned with transportation priorities, can languish in early project development stages, and indeed may never be started at all. Establishing a framework for project selection that includes such factors as requiring projects to be included in state plans could help ensure projects' significance and feasibility. In addition, changing current project funding policy by, for example, limiting the availability of authorized funding to 4 years, could help encourage timely project completion.

-- ISTEA includes provisions permitting states increased opportunities to use highway funds for mass transit and nontraditional projects such as high-occupancy vehicle (HOV) lanes and vice versa. However, in our ongoing work we found that, in fiscal year 1992, less than 3 percent of flexible highway funds were used to finance mass transit and nontraditional projects, and about 3 percent of flexible mass transit capital funds were used to finance nontraditional projects. A variety of barriers stand in the way of states and localities thinking and acting cross-modally. These include restrictions on the use of state fuel tax revenue and the fact that highway and mass transit infrastructure needs exceed available resources.

-- While ISTEA encouraged a total systems approach to select among transportation alternatives, state and local decision makers may need help in meeting this goal. For example, the state of the art in comparing transportation alternatives is not well advanced. In addition, some analytic tools were developed some 20 to 30 years ago and are ill-suited for today's decision making environment. Development of a framework for comparing projects both within a mode and between modes and improved analytic tools under the leadership of the Department of Transportation's (DOT) Office of Intermodalism and Bureau of Transportation Statistics will be critical as states and localities address the myriad objectives facing transportation decision makers.

We will now address these points in greater detail.

FINANCING CONCERNS DOMINATE THE HIGHWAY SPENDING HORIZON

Of ISTEA's total $155 billion authorization through fiscal year 1997, over $122 billion was targeted to federal-aid highway projects. It was initially expected that revenues derived from the federal fuel tax and other highway-related taxes would be adequate to support this level of funding. However, DOT analysis now indicates that based on current revenue forecasts, the highway account is expected to fall $10.1 billion short of meeting outstanding authorized funding. Over the past year, estimates of the financial condition of the highway account at the end of the ISTEA authorization period have fluctuated, from a $2.7 billion surplus to a $12.5 billion shortfall. This variability can be principally attributed to fluctuations in projected revenue levels. An increased revenue stream could safeguard the financial condition of the highway account.

Highway Account Faces a Shortfall

Since ISTEA was enacted in December 1991, the revenue outlook for the highway account has worsened. As a result, a substantial shortfall in the highway account is expected to materialize. As shown in appendix I, the expected financial condition of the highway account at the end of the ISTEA authorization period has varied during the past year. At the time of ISTEA's enactment, FHWA estimated a $2.7 billion surplus in the highway account at the end of fiscal year 1997. However, just 1 year later, FHWA estimated a $12.5 billion shortfall in the highway account at the end of the authorization period. FHWA's April 1993 estimates indicate that the expected cumulative shortfall in the highway account has moderated somewhat but still will total $10.1 billion.

The financial condition of the highway account is calculated using a financial safeguard known as the Byrd Amendment, which serves as a safety mechanism to ensure that revenues to be credited to the highway account will be sufficient to meet all outstanding authorizations. In brief, the Byrd Amendment requires that in any given fiscal year, the highway account's cash balance plus 2 additional years' revenues be sufficient to honor outstanding authorizations through that fiscal year. Consideration of 2 future years' revenues is in keeping with the fact that existing highway law provides for the collection of fuel and other highway-related taxes for 2 years beyond authorizations.

Projected Revenues Have Fluctuated

The varying outlook for the highway account can be attributed to a number of factors, but the volatility of the revenue projections accounts for most of the changes in the magnitude of the shortfall. As shown in appendix II, from January 1992 to January 1993, expected total revenue collections from fuel and other highway-related taxes over fiscal years 1992 through 1999 declined by over $9 billion. Since January 1993, projected revenue collections have turned upwards again, though slightly.

While volatile tax collection forecasts account for the bulk of the variation in the expected shortfall, they are not the sole factor contributing to the sudden shifts in the shortfall's magnitude. For example, while the January and April 1993 analyses assume that ISTEA will be fully funded, earlier it was expected that obligation levels would be considerably lower than authorized funding levels throughout the life of ISTEA. Second, interest earned on the smaller cash balance of the highway account will be lower than initially expected. A third factor contributing to the variation is that ISTEA's authorized funding is now expected to be higher than originally anticipated for certain funding categories. This is because ISTEA included a number of funding categories designed to promote equity among the states. Total funding for these categories is not fixed, since states' eligibility for funds varies from year to year. At the time of ISTEA's enactment, a preliminary cost estimate for the equity adjustment categories was made, but subsequently this estimate proved to be understated by about $4 billion over the life of ISTEA, as noted by FHWA.

Increased Revenue Stream Could Safeguard Highway Financing

The President's fiscal year 1994 budget advocates the extension of a 2.5-cent portion of the fuel tax currently credited to the General Fund to offset deficit reduction and scheduled to expire on September 30, 1995. In addition, the budget calls for the receipts from a 2.0-cent portion of this tax to be credited to the highway account starting on October 1, 1995, and continuing through fiscal year 1999. The remaining 0.5 cents would be credited to the mass transit account for the same period of time.

On the basis of the latest revenue projections, FHWA estimates that crediting the highway account with collections associated with 2.0 cents of the fuel tax would avert the threatened shortfall. However, eliminating the shortfall does not eliminate the need for close monitoring of the highway account. This is because the cash balance of the account, which is needed to pay bills as they come due, is expected to drop to $2 billion by the end of fiscal year 1997. This balance is midway between the $1 billion to $3 billion safety cushion that FHWA officials have recommended to guard against unforeseen decreases in revenue.

SELECTION AND FUNDING OF DEMONSTRATION PROJECTS COULD BE IMPROVED

Recent surface transportation legislative actions have generated a proliferation of authorized highway demonstration projects as well as an increase in authorized funding. Highway demonstration, or special, projects fall into several distinct categories but are generally specific construction projects identified by name in legislation. Projects can range in scope from paving a gravel road to building a multilane highway. ISTEA included 539 demonstration or specifically named projects with an accompanying authorization of $6.2 billion. This amount represents almost a five-fold funding increase compared to the 1987 reauthorization, which included $1.3 billion for 152 highway demonstration projects. Over and above the ISTEA authorization, however, are additional demonstration and special project authorizations written into appropriation acts.

Some demonstration projects address critical transportation needs, but in some cases their high costs can preclude a state's capacity to fund them in the near term. Thus, the authorization of federal demonstration funds for such projects can prove essential to spurring their development. However, authorizing a large number of new demonstration projects could be problematic for a variety of reasons. First, authorized federal funds combined with the required state match are often not sufficient to complete the projects. Second, demonstration projects are often not aligned with state and regional transportation priorities. Third, the purchasing power of demonstration project funds is often limited by a slow rate of obligation.

Demonstration Projects Exacerbate Financial Outlook

The financial problems of the highway account will be exacerbated if more demonstration projects are authorized through supplemental appropriations, or if additional funds are authorized for already approved demonstration projects that have not been funded sufficiently. This is because new demonstration projects increase total authorized funding, and thus increase total potential liabilities to be met from the highway account.

Demonstration projects will compound the financial difficulties facing the highway account because these projects frequently cost more than initially expected. In our 1991 review of 66 highway demonstration projects in eight states, we found that the cost to complete these projects frequently exceeds authorized funding levels.[1] We reported, for example, that across all the projects reviewed, the federal funding and state match together comprised only 37 percent of total anticipated project costs. States therefore planned to use other federal, state, and local funds to cover about half of the additional $1.2 billion needed to complete the projects. The tendency for total project costs to exceed authorized funding persists under ISTEA. FHWA estimates that across all demonstration projects authorized under ISTEA, federal funds made available under ISTEA will cover only 25 percent of total project costs. The tendency of the projects to cost more than originally expected will present an additional drain on the highway account if extra funds must be authorized in future years to cover the cost of project completion.

Projects Typically Do Not Meet Top Priorities and Have Limited Payoff

In addition to worsening the financial status of the highway account, demonstration projects often provide limited benefits. One reason is that these projects frequently are not aligned with key transportation priorities. For example, in 1991 we found that about half of the demonstration projects we reviewed did not appear on state or regional transportation plans before they were authorized. Thus, these projects may not have received the same degree of state scrutiny as projects undertaken through established federal-aid highway plans and programs. Moreover, 10 percent of the projects authorized in 1987 were not on the federal-aid highway system, meaning that they would not qualify for federal funds under the core federal-aid highway programs. This trend was reinforced in the ISTEA demonstration projects; slightly over 25 percent of these projects are not on the federal-aid system, according to FHWA.

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[1] Highway Demonstration Projects: Improved Selection and Funding Controls Are Needed (GAO/RCED-91-146, May 28, 1991).

A second key reason why the payoff from demonstration projects is limited is that they often have problems causing them to languish in an early project development stage long after authorization. In our review, we found that these problems ranged from threatened intrusion on wetlands to citizen opposition. For example, one proposed highway construction project we reviewed would have cut through a low-income housing project undergoing renovation with federal funds.

Third, we also found that demonstration projects tend to have a slow rate of obligation; in 1991, only 36 percent of funding authorized for demonstration projects 4 years earlier had been obligated. A similar, though more pronounced pattern may emerge with ISTEA's demonstration projects. First, only a fraction of the total funds authorized for the duration of ISTEA have been allocated to the states thus far--9 percent in fiscal year 1992 and 20 percent in fiscal year 1993. Thus, a number of projects do not have sufficient funds to get underway, which is reflected in a slow obligation rate. As of March 1993, about 21 percent of the ISTEA funds allocated up to that time had actually been obligated.

Indeed, some funds for demonstration projects may never get obligated; for 22 of the 66 projects we reviewed, none of the authorized funds ($92 million) had yet been obligated, even though the projects had been authorized 4 years earlier. In some cases, projects were not started because state officials did not want to use their highway funds to cover the expected shortfall. While such projects may remain inactive, there is no provision for recapturing or redistributing the demonstration projects' budget authority to other programs. Thus there is no guarantee that the authority will ever be used for either demonstration projects or other transportation needs.

There is a range of possibilities for improving the current approach to selecting demonstration projects, and as shown in appendix III, we would like to outline a few of them today. In response to our finding that just half of the demonstration projects authorized in 1987 appeared on state plans, in 1991 we noted that one way to improve project selection would be to authorize only those projects that are already incorporated in existing transportation plans. Second, given ISTEA's emphasis on using transportation investments as a means of meeting a wide array of national objectives, another possibility would be to consider a project's capacity to promote multiple national objectives, such as meeting specific, previously identified research needs; improving air quality; conserving energy; and enhancing mobility. Third, in recognition of the fact that demonstration projects are often authorized at only a fraction of their full cost, each candidate project could be required to be accompanied by a financing plan outlining the estimated total project cost, funding sources for the project, and the expected time span for project completion. Fourth, given the fact that demonstration projects have often been used for local roads that serve fewer travellers than federal-aid roads, future demonstration project proposals could be required to be accompanied by a rate of return or cost-benefit analysis. However, because these analyses can often be imprecise or manipulated to show varying results depending on the assumptions chosen and weights assigned, these types of assessments should be used in concert with other criteria such as those cited above.

In addition to setting criteria for selecting projects, there are a number of ways to improve funding policy for demonstration projects, noted on appendix IV. One possibility would be to finance demonstration projects through existing federal-aid highway program categories. In addition, in 1991 we recommended that the Congress consider instituting a "use-it-or-lose-it" demonstration project provision requiring the cancellation or redistribution of federal funds for any demonstration projects that remain inactive 4 years after their authorization.

LITTLE INITIAL USE OF ISTEA FUNDING FLEXIBILITY

ISTEA provided unprecedented opportunities for states and local governments to use federal funds flexibly for highway, mass transit, or nontraditional projects, such as HOV lanes and ridesharing programs. An estimated $80 billion of ISTEA's total $155 billion authorization may be used flexibly. While the first year of implementation may not be the best barometer of the future, our ongoing work has found that states and local governments have made limited use of ISTEA's funding flexibility provisions. In fiscal year 1992, less than 3 percent of flexible federal-aid highway funds ($319 million) were used to finance mass transit and nontraditional projects, and about 3 percent of flexible mass transit capital funds ($31 million) were used to finance nontraditional projects.

Use of Funding Flexibility Spurred by Air Quality Concerns

Where funding flexibility has been exercised, it has largely been concentrated in the Congestion Mitigation and Air Quality Improvement (CMAQ) program--an FHWA program designed to address air quality problems. Approximately 50 percent of CMAQ's $340 million in total obligations has financed mass transit and nontraditional projects. Even within the CMAQ program, the greatest use of funding flexibility was concentrated in five states that accounted for about 75 percent of the CMAQ cross-modal investments.[3]

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[3] New York, New Jersey, Massachusetts, Illinois, and Virginia.

Traffic congestion and air quality seem to be playing an important role in funding flexibility decisions. For example, CMAQ funds have financed mass transit and nontraditional projects in areas experiencing severe congestion and air quality problems, such as the Northeast. The funds are being used to finance such projects as HOV lanes, bus purchases, and transit passenger facilities, such as bus shelters, each of which qualifies as a transportation control measure under the Clean Air Act Amendments of 1990. There are a number of reasons why congestion and air quality will likely continue to exert a major influence over decision makers' choices to use funds flexibly. First, 70 percent of peak-hour urban Interstate travel in 1991 was under congested conditions. Second, 38 states have nonattainment areas--that is, areas that do not meet national air quality standards for at least one pollutant. Finally, in 1991, 6 out of 10 people in the United States lived in nonattainment areas.

Hindrances to Funding Flexibility

Although congestion and air quality are key considerations in the decision-making process, a variety of other factors may hinder states and localities from thinking and acting cross-modally. For example, some state departments of transportation have not historically had a large involvement with mass transit programs and therefore may be reluctant to transfer funds for nonhighway uses. Local as well as state officials we talked with agreed that adapting to ISTEA's changes would not occur over night. In addition, not all state and local funds can be used flexibly for matching fund purposes. In 1991, 35 states restricted the use of their motor fuel tax revenues to highway or bridge use only; therefore, about $13.5 billion out of total state motor fuel tax collections of $19.3 billion could not be considered for mass transit projects. Finally, highway and mass transit infrastructure needs continue to exceed available resources. Officials from all five states we visited expressed concern about their ability to meet infrastructure needs. As an official from one state we visited noted, any new money received from ISTEA was not enough to cover the tremendous backlog of projects in the pipeline. As a result, this state official believed use of funding flexibility would be discouraged.

IMPROVED TOOLS NEEDED TO SUPPORT SOUND INVESTMENT DECISIONS

Rather than focusing on only one form of transportation at a time, ISTEA encourages a total systems approach to dealing with transportation issues. States and localities are expected to consider all modes of transportation in developing transportation plans. However, they may need help in accomplishing these goals. We reported in April 1992 that DOT could better assist state and local governments by developing a common basis for comparing and evaluating projects in various transportation modes--highway, mass transit, or some combination.[3] This common basis would provide a framework for quantifying a project's ability to meet mobility, environmental quality, cost-effectiveness, safety, and social and economic objectives. Current highway and mass transit selection criteria do not facilitate such comparisons and choices. We recommended that DOT develop criteria for comparing different transportation modes to better assist state and local decision makers in identifying those projects, regardless of mode, that most effectively deal with congestion and air quality problems. Such criteria have not yet been developed even though state and local officials we talked to continue to believe that such criteria are necessary for making investment decisions.

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[3] Transportation Infrastructure: Urban Transportation Planning Can Better Address Modal Trade-offs (GAO/RCED-92-112, Apr. 2, 1992).

As we reported in December 1992, DOT could also better assist state and local decision makers by supporting the development of methodologies for data collection and analysis to compare projects.[4] Our ongoing work focuses on that need in one area--the capacity of existing analytic tools to determine the air quality impacts of transportation projects. Although methods and models exist for forecasting travel demand in urban areas and for identifying emissions rates of various vehicle types, the state of the art in evaluating air quality impacts of transportation projects is not well advanced. In general, travel demand models were originally developed some 20 to 30 years ago to analyze the need for new or modified highway facilities. Because these models often do not incorporate or fully recognize such factors as vehicle speed or type, they are now ill-suited to be used to analyze the air quality impacts of transportation projects. Officials from all 10 states and 9 metropolitan planning organizations (MPO) we contacted cited problems in evaluating the air quality impacts of transportation projects with existing information and models. In fact, one MPO we visited expressed such concerns over existing techniques and tools that it had deferred use of CMAQ funds until it had more confidence in determining the emission reduction benefits of CMAQ proposals.

A mechanism to collect data and develop methodologies to help states and localities address the above problems exists through DOT's Office of Intermodalism and Bureau of Transportation Statistics. These offices were created to develop and disseminate transportation data and provide technical assistance to states and localities. The development and dissemination of criteria, methods, and models under the leadership of these offices could assist state and local decision makers not only in comparing projects in different transportation modes but also in evaluating the projects' impact on such objectives as air quality. As we reported in December 1992, depending on the success these new offices have in fostering a total systems approach, DOT may also need to consider other organizational changes such as creation of a Surface Transportation Administration to encompass the missions currently performed by separate rail, highway, and transit agencies. Assistance to states and localities will be critical as they identify the mix of projects, regardless of mode, that address problems such as congestion and poor air quality.

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[4] Transportation Issues (GAO/OCG-93-14TR, Dec. 1992).

CONCLUSIONS

Current DOT analysis indicates that under current revenue forecasts, the highway account will not have the capacity to support outstanding funding authorized over the life of ISTEA. As of April 1993, a cumulative shortfall of $10.1 billion is expected unless additional revenues are credited to the highway account. As indicated by past experience, however, the magnitude of the shortfall could significantly rise or decline depending on future revenues. Given the volatility of the projected revenue stream, close monitoring of the highway account's status will be needed throughout the ISTEA authorization period.

Since transportation needs far outstrip available resources, targeting federal funds to the most significant transportation problems facing the nation is critical. One way to get the greatest return on investment is to look at the selection and funding of demonstration projects in a new way. Selection criteria might be established to provide information concerning the priority, feasibility, and relative importance of competing projects. These criteria might include requirements that candidate projects appear in a state plan and be accompanied by a complete financing plan. Turning to funding policy, if a demonstration project remains inactive 4 years after its authorization, cancelling it or redirecting its authorized funds would help to ensure that the funds are effectively spent.

ISTEA changed the environment in which surface transportation choices are made by providing states and local governments with an unprecedented opportunity to use federal funds flexibly for highway, mass transit, and nontraditional projects. To date, however, the use of highway and mass transit funding flexibility has been limited. At the federal level, DOT can help to address some of the barriers to the use of flexible funding. For example, DOT can assist states and local governments both by developing an investment framework to make cross-modal comparisons and by fostering development of improved analytic tools for assessing the impacts of transportation investment choices.

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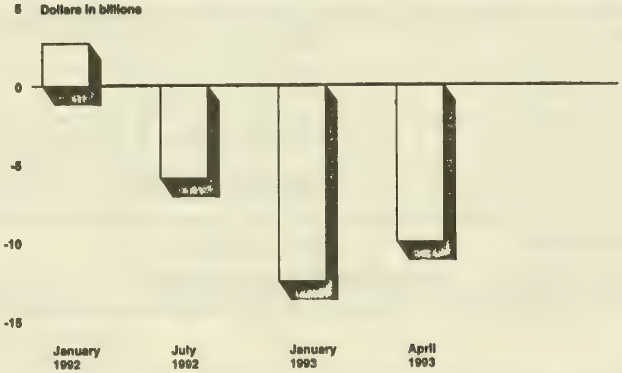
Mr. Chairman, this concludes our testimony. We would be happy to respond to any questions that you or other members of the Subcommittee might have.

GAO

Estimates of Uncommitted Highway Account Balance at End of FY 1997



GAO analysis of FHWA highway account data. Assumptions include full funding of ISTEA and February 1993 revenue projections.

GAO

Fluctuations in Estimated Tax Receipts to Highway Account

	Estimated tax receipts, FY 1992-1999[a]	Dollar change from previous estimate
January 1992	$140.4 billion	
July 1992	$134.4 billion	- $6.0 billion
January 1993	$131.1 billion	- $3.3 billion
April 1993	$133.3 billion	+ $2.2 billion

[a] Estimated collections of fuel and other highway related taxes to be credited to the highway account of the Highway Trust Fund, as estimated by the Department of the Treasury. Totals do not include associated interest earnings credited to the highway account.

GAO

OPTIONS FOR IMPROVING DEMO PROJECT SELECTION

- Restrict Selection to Projects Appearing on State Plans
- Consider Capacity of Project To Meet Multiple National Objectives
- Require Project Proposals to Address Financing

GAO

ACTIONS TO IMPROVE DEMO PROJECT FUNDING

- Eliminate Project-Specific Authorizations
- Institute "Use It or Lose It" Provision

INVESTMENT CRITERIA

Mr. **Carr**. Thank you very much, Mr. Mead. You point us in some very important directions and as usual help us in our deliberations by more finely honing in on the issues that we ought to address ourselves to.

This is indeed an important hearing, as we pointed out earlier. Half of the transportation budget is typically in Federal highways.

I would like to address your last point, and I wish there were more writers in the room who like to talk about pork barrel endlessly. The fact of the matter is just what you said, that there isn't a lot of current up-to-date modern methodological tools available to try to make better than almost random political decisions about where our public works' dollars should go.

This Committee embarked in its very first hearing in an effort to try to change that and focus some attention on that. GAO has been very helpful to us and I want to thank you for that. I also want to let people know where we are in our effort to develop methodological tools for all the modes. We have held a number of hearings. We have held many briefings. FHWA has participated in one of those to try to ascertain where we are in trying to make economic rate of return analyses of a variety of projects.

We have met with the Secretary of Transportation and are pleased to find out that he is interested in how we can have better methodology in how we determine what projects get funded. And the staff has done a tremendous amount of work in pulling together ideas that are available and we have actually come to a point of a first draft. The staff has submitted to me a first draft of a proposal to advance criteria that will be a lot tougher, that will ask a lot of questions and hopefully get more data than we have ever had in the past.

We are hopeful that before the end of the week that we will be able to present the work of the staff to the full Subcommittee and hopefully within two weeks, I would say, we would be able to make some public proposals that we might get some comments on. Because our budget cycle is so short we are going to have to start applying some of these criteria right away.

Once again, I want to let you know, and anyone who is listening here, that the General Accounting Office has been very, very helpful to us in pursuit of this goal of ours.

ISTEA DEMONSTRATION PROJECTS

Mr. **Carr**. Mr. Mead, you made mention of the 539 demonstration projects in ISTEA. You cited the figure of $6.2 billion for those projects contained in ISTEA represents only the Federal share of the total project cost during the period of ISTEA. That total cost is probably more than three to four times more than that to complete those projects.

Do you have a number for what the total non-Federal share on those projects is?

Mr. **Mead**. Well, first when these things are authorized, the denominated State share is usually 20 percent. But in many of these situations the project doesn't get under way. The same project may come back and ask for more money, so eventually you have more authorizations built up so that perhaps the project can get under way. In other words, in year one they will say, here's how much we want. The project doesn't get under way, and a couple of years later they may come back and ask for more money.

Given that just 25 percent of the total cost of the projects is being covered by the ISTEA authorization, you are talking about $18 billion in additional funding that may be needed to complete these projects.

Ms. JONES. Mr. Carr, we did look at that issue in our report where we looked at 1987 demos and total Federal and State money covered about 37 percent of the total project completion costs.

Mr. CARR. Typically, as well, some of these ISTEA projects are based on a cost estimate. My own personal experience is that the minute you put a demonstration project together, because of the time to get these projects under way and built, the real cost far exceeds what the estimated cost was going to be, just in cost growth alone, inflation, if you will.

Mr. MEAD. Yes.

Mr. CARR. And that is not included in your figure.

Mr. MEAD. No.

Mr. CARR. So in other words, the non-Federal share—let's put it differently. Of the 539 demonstration projects in ISTEA, ISTEA only provided $6.2 billion of the money for those projects. The total estimated cost at the time ISTEA was passed, it was probably more like $27 billion.

Mr. MEAD. Yes, based on an analysis of 430 of the 539.

Mr. CARR. Only for 430.

Mr. MEAD. Working with FHWA, we were able to get information on about 430.

Ms. JONES. That was the base, but I think that the 25 percent refers to the total 539.

Mr. CARR. Okay. ISTEA dangled the promise of 539 projects with the tantalizing $6.2 billion, but leaves it to others, whether it is this Committee or the States, to come up with another at least $20.8 billion by my calculation.

Mr. MEAD. Yes.

Mr. CARR. That is just the Federal share.

Mr. MEAD. The $6 billion is.

Mr. CARR. Is that everything? Well, I am trying to understand. Let me back up. The $6.2 is what is in ISTEA?

Mr. MEAD. Right.

Mr. CARR. Now, how much more Federal is required?

Mr. MEAD. If the Federal Government were going to pay at the 80 or 90 percent level, take 90 percent of the $27 billion, that is about in the neighborhood of $23 billion, which is about $17 billion more than you thought you were buying into when you established the $6.2 billion authorization.

Mr. CARR. Then the non-Federal share is how much?

Ms. JONES. The non-Federal share will be about 20 percent, so if you take 20 percent of your total, that is what you would be looking for initially as your State match.

Mr. CARR. What is the total Federal and non-Federal amount required for the 539 demonstration projects of ISTEA?

Mr. **Mead**. Well, the difficulty here, Mr. Chairman, is that when Congress authorized these projects, they said, here is $6.2 billion. The State is supposed to come up with 20 percent of the cost. But the Feds gave $6.2 billion, but the projects are going to cost much more than that so in a way it was a fiction from the beginning.

Now, when we get up to the real numbers of $25 billion to $27 billion if the Federal Government really were going to finance 80 percent, what would the figure—

Ms. **Jones**. I think if you start back at $27 billion, the Federal Government has already put in six. If you subtract that from the 27, you end up with the 21. If you look at the Federal share at 80 percent, you are looking at more Federal dollars of about $16.8 billion.

Mr. **Mead**. Sixteen point eight.

Ms. **Jones**. We are looking for $16.8 more in Federal dollars.

Mr. **Carr**. In other words, $16.8 billion to complete the Federal share of these demos?

Ms. **Jones**. Yes. You are going to need another $16.8 billion.

Mr. **Carr**. When you looked at these projects, did you find any projects out there where the State was just not going to come up with their match?

Mr. **Mead**. Yes. We can take you back to the 1982 demo projects. You can figure that if a State were going to get a project under way, probably 10 years is a reasonable period of time. For the 1982 authorization, $12 million for demonstration projects has never been obligated. In 1987, 22 of 66 projects we looked at, worth at least $92 million, hadn't gotten under way, and seven of them, it was clear to us, would never get under way. The State wasn't interested in them.

Mr. **Carr**. I am trying to get to the bottom line of what questions should we be asking essentially. For each of these projects that were funded in ISTEA, we should be asking the relevant State authorities whether they plan to fund these projects, and whether they have the money set aside to do these projects. Are those fair questions? Also whether they want these projects at all.

Mr. **Mead**. Yes. And of course when. Because they are asking for you to commit money in year one for a project that may not get under way for possibly eight, 10 years, maybe never.

LIMITING DEMONSTRATION PROJECT FUNDS

Mr. **Carr**. Well, given the funding constraints of this Committee, and with the President who has proposed spending $3.6 billion more than we have, maybe use it or lose it has already passed.

Mr. **Mead**. Yes, except that for all of the demos that have been authorized, they are treated differently from the rest of the State's apportionment and that money is tied up in the trust fund and you can't touch it. In other words, when you set your obligation limitations, you have to first subtract the number of demos that have been authorized from the amount that you have available to give out. Demo money is protected money. Now, that rule of the road could change, of course, and that is one the suggestions we are offering.

Mr. **Carr**. Well, one of the ways to do that is just to signal that a particular project will not get more money from this Committee. Wouldn't that be a way to do it?

Mr. **Mead**. Yes, except that the initial authorization still sits there. It still is there and it counts against the amount of money that you have available to give out to the States. It is like in a bank account. So for the authorizations that have already been made, you would have to attach some type of a use or lose it requirement to the money already authorized.

Mr. **Carr**. Well, we could limit the amount of the demos to four years.

Mr. **Mead**. That would do it. To say if you are going to have a demo, if one is already authorized, the money needs to be obligated within four years. That puts it on approximately the same footing as all other highway programs.

DEMONSTRATION PROJECT SPEND OUT RATE

Mr. **Carr**. One of the reasons we are talking about this is that there is a very slow spend out rate for demo projects. Why do you think this is? Have you been able to get behind some of these projects and study why they are so slow getting this under way? If they are so darn awful important that they have to have their own position in the statute, you would think there would be something of an emergency nature about them, something very special about them that would require that they be under way right away.

Mr. **Mead**. In many of these cases, Mr. Chairman, the project is not in the State's transportation priorities to begin with. States out there operate under a plan where the State legislature, the Governor, and so forth prioritize their projects, and put them in the State plan. That is required under the ISTEA legislation now. Yet over half of the ISTEA demos were not in the State plans. The demo comes along and the State is told, well, here is a demo, but it is not as high in their priority scheme as their own projects and they don't have the money to come up with the match. Do you care to amplify?

Ms. **Jones**. Just to amplify, also since it is not in their plans and not been a priority for them, a lot of times the preliminary work on the projects has not been done when they appear in the legislation. So they are starting a little farther behind other projects that might already be in the State plan. This could also be contributing to the slow spend out rate.

STATUS OF DEMONSTRATION PROJECT OBLIGATIONS

Mr. **Carr**. What is the unobligated balance for all demonstration projects? Did you give us that?

Mr. **Mead**. We have roughly.

Ms. **Jones**. $1.3 billion has been.

Mr. **Mead**. $1.7 billion is available right now. I should explain for the 1991 authorization of $6.2 billion, $1.7 billion is now available for obligation. Of the $1.7 billion that could have been obligated, $1.3 billion remains unobligated. Going back to 1987 demos, $1.4 billion was authorized. Of that figure, $430 million remains unobligated. Going back to 1982, where you had $373 million total authorized, $12 million remains unobligated.

Mr. CARR. Did you give that to us in the testimony?

Mr. MEAD. No.

Mr. CARR. Do you have another chart on that? It looks like you have one.

Mr. MEAD. I have some notes here with some figures on them.

Ms. JONES. We can provide that for the record in chart form.

Mr. CARR. Would you.

[The information follows:]

STATUS OF DEMONSTRATION PROJECT OBLIGATIONS FOR SELECTED AUTHORIZATIONS

	Funds available for obligation	Unobligated balance
1982 authorization	$373 million	$12 million
1987 authorization	$1.4 billion	$0.4 billion
1991 authorization [1]	$1.7 billion	$1.3 billion

[1] Data for 1991 authorization are as of March 1993.

Source: Federal Highway Administration.

Mr. CARR. In other words, demonstration projects going all the way back to when, 1982?

Ms. JONES. Yes.

Mr. CARR. There are still about $12 million just hanging around waiting to do something.

Mr. MEAD. Actually it is $12 million that is totally unobligated. There is also $29 million in unpaid obligations which is an indication that the project is dragging on.

Mr. CARR. Were you able to get project specific on some of these?

Ms. JONES. What way? In terms of what?

Mr. CARR. Yes.

Ms. JONES. We did not go project specific way back to 1982, no, sir.

Mr. CARR. Before turning to some questions on the other side of the coin, the anticipated trust fund receipts, I will yield to my friend, Tom Foglietta.

Mr. FOGLIETTA. I have no questions.

Mr. CARR. Mr. Wolf?

Mr. WOLF. Thank you, Mr. Chairman.

Mr. CARR. I might say if we can keep our questions on the spending side, then we will get to the revenue side, if we could do it that way. Do you have any questions on the spending side?

Mr. WOLF. Well, I have about 15 or 20 questions. We will break it out. Let me just try a few and you can tell me if I am off base. One, I appreciate your testimony. I would suggest that the Chairman maybe get Mr. Mead back and his staff for maybe just a briefing where we can ask more extensive questions. We have other witnesses that are waiting. I think you have raised so many questions with so many different issues that are potentially so controversial that I would like to see you come back or just come by my office and spend about three hours to go through a lot of this. Because I think you raise a lot of different issues.

How old is the oldest demo project that you are talking about? You mentioned 1982, 12 million.

Mr. MEAD. In 1982 is what we went back to, I think is when they began to be institutionalized. Before you came in, Mr. Wolf, I was outlining a trend over the years and I started with 1982. In 1982, there was $373 million authorized for demos.

Mr. WOLF. Three hundred and?

Mr. MEAD. Three hundred and seventy-three million dollars for demos authorized. Let's go up to 1987. In 1987, they became more popular and $1.4 billion of them were authorized. And how many projects was that, do you remember?

Ms. JONES. I would have to go back and check.

Mr. MEAD. One hundred and fifty projects, I think, in that neighborhood. In 1991, they got up to $6 billion. And that was for 530-odd projects. That is on the ISTEA authorization side.

There is another side, too, that happens annually with the appropriations committees, and in fiscal year 1993 I think the number was in the neighborhood of 70 projects where the authorization was for about a third of a billion dollars, but many of those projects were old projects. In other words, they were projects for which money had already been authorized but the sponsor of the project was coming back asking for some more money.

DEMONSTRATION PROJECTS IN STATE/REGIONAL PLANS

Mr. WOLF. What percentage of the projects were not on their State's priority list?

Mr. MEAD. Half. And there seems to be a pattern, you might say. When you go back to 1987, it was a little over half weren't in the State or regional plans and then in 1991, about half again were not in the State or regional plans.

Mr. WOLF. What do you think the result of that was? Why did that take place? Is it that highway departments just felt that this was their shot to get in and they lobbied their Member up here to ask or was it a locally originated? Do you have any sense of why that happened?

Ms. JONES. I would say that that would be a good reason, Mr. Wolf. Maybe the projects didn't get in a State plan but they want to push that project forward. There are some examples of projects that were quite expensive and that the States could not fund under their normal highway program money and these are another example of demos.

Mr. WOLF. So the State could really have it both ways, couldn't they?

Mr. MEAD. Yes, sir. There were some examples where the project was not supported at the local or State level and it was something of a mystery as to why it would have gotten in there.

Mr. WOLF. What project was it that you said involved a housing project that was being federally funded? You said, for example, one proposed highway construction project we reviewed would have cut through a low income housing project undergoing renovation with Federal funds. Where was that project?

Mr. MEAD. I don't recall.

Ms. JONES. I don't recall. We would have to check on that for you.

[The information follows:]

The housing project noted in our testimony was located in Louisiana.

DEMONSTRATION PROJECT FUNDS IMPACT ON STATES' APPORTIONMENTS

Mr. Wolf. You know some of the States took the attitude during the 1980s that they didn't want to come up. One was Virginia. They didn't want to come up and ask for demo projects. Then they switched to well, everybody else is doing it and we don't like it, but we want you to try to get these demos.

In the ISTEA bill last year my state put a $6 million project, which I did not support, for a rail study on the Dulles corridor connecting with the west Falls Church Metro station. The original intention was to bring Metro out above ground from west Falls Church to Dulles. We are already funding a bus transit system in the Dulles corridor. My state went to another Member and had the rail study added to the ISTEA legislation. I will not support the appropriating of the money for this project.

Now they may go to another Member and they may go to the Senate. They went over to the Senate last year, and I said they could put it into the Senate bill but I was not going to support it in conference.

Mr. Mead. You know you raise an interesting point. I don't think Mr. Carr asked this question directly, but through an oversight I neglected to mention that a lot of times people don't realize that this really affects the amount of money that they would otherwise get. We took an analysis off the 1987 demos and found that if there were no demos, if we had no demos whatsoever, 21 States would have gotten more money. Fourteen——

Mr. Wolf. What States were they? Do you have that for the record?

Mr. Mead. We can provide that, sir. In 14 States, would have experienced no change and 15 States would have gotten less money.

Mr. Wolf. It would be helpful to show what States would have gotten more, what less and no change and how much less because maybe it would have been so insignificant or so major. If you could do that for the record.

[The information follows:]

On the basis of our 1991 analysis of the demonstration projects authorized in 1987's Surface Transportation and Uniform Relocation Assistance Act, the following 21 states would have received increased apportioned funding if no demonstration projects had been authorized: Alabama, Alaska, Arizona, Colorado, Connecticut, Delaware, Hawaii, Louisiana, Maryland, Massachusetts, Montana, Nebraska, New Hampshire, New York, Oregon, Rhode Island, Utah, Vermont, Virginia, Washington, and Wyoming. The following 14 states would have experienced no significant change in their apportioned funding: Arkansas, California, Florida, Georgia, Indiana, Michigan, Mississippi, Missouri, North Carolina, Ohio, Oklahoma, Tennessee, Texas, and Wisconsin. The following 15 states would have received decreased apportioned funding in the absence of any demonstration projects: Idaho, Illinois, Iowa, Kansas, Kentucky, Maine, Minnesota, Nevada, New Jersey, New Mexico, North Dakota, Pennsylvania, South Carolina, South Dakota, and West Virginia.

Among the states that would have received more funds in the absence of demonstration projects, the range in the differences in funding extended from a smallest increase of $608,000 (New Hampshire) to a largest increase of $67 million (Massachusetts). Among the states that would have received fewer funds in the absence of demonstration projects, the range in the differences in funding extended from a smallest decrease of $1.6 million (West Virginia) to a largest decrease of $61 million (Pennsylvania).

Mr. Wolf. You say on page eight that, moreover, 10 percent of the projects authorized in 1987 were not on the Federal aid highway system, meaning that they would not qualify for federal funds under the core federal aid highway programs.

Basically you were saying they were purely local projects which had no basis for being in the federal aid to highways program. Is that what you are trying to say here?

Mr. MEAD. Yes, sir. They would not have been eligible for participation in any of the Federal aid programs.

Mr. WOLF. So clearly one of the standards would be that you shouldn't fund any program that is not incorporated in the existing transportation plan. That should be almost one of the first things we look at, whether the State has it in their plan. It would be absolutely wrong for the Congress to authorize it, but if it is authorized, we should not appropriate the funds. Is that a fair statement?

Mr. MEAD. I think that is correct as a general proposition. You may wish to provide yourself a safety valve, though, because there may be a situation where the project is of such a compelling nature that the appropriations committee may wish with special extraordinary justification provided to go forward with it.

Mr. WOLF. Like if it was a powerful Member of Congress or something like that?

Mr. MEAD. I didn't mean that. Let me give one example just hypothetically. Say there is a jurisdiction with just a terrible air quality problem and it is having a difficult time reaching any consensus whatsoever on how to deal with that. Say a proposal is made using some unique combination of IVHS and HOV lanes that you as Congress feel is very, very important. It is clearly innovative. It is demonstrative of it.

Mr. WOLF. A real demonstration project.

Mr. MEAD. Yes. Then you might want to provide yourself some wiggle room even though it might not be in the State plan. But as a general proposition, Mr. Wolf, you are correct; it should be in the State plan. That would be more in line with the principles of the ISTEA legislation.

Mr. WOLF. On page 10 you say, given the fact that demonstration projects have often been used for local roads that serve fewer travellers than Federal aid roads, future demonstration project proposals could be required to be accompanied by a rate of return or cost-benefit analysis.

Have you done any cost-benefit analysis of one or two of the ones that have passed and are already built just to see what the impact was?

Ms. JONES. No, sir, we have not.

Mr. WOLF. Would that be possible to do, just to get some impact, some impression of what the impact was? I don't know how you would pick those projects but just to get some sense?

Mr. CARR. Would the gentleman yield? I think, in effect, we are going to end up doing that when we adopt as a committee our criteria. We are going to be looking back at some of those projects and asking people for supplementary information and then we will be applying our own methodology. There may be people who argue with our methodology and that is part of the dynamics of a political process. We may have to refine, but I think our committee is going to be doing that.

STATES USE OF FUNDING FLEXIBILITY

Mr. **Wolf**. Let me ask just maybe one or two more questions so Mr. Carr can move on.

You mentioned here on page 11, the greatest use of funding flexibility was concentrated in five States. Virginia one. So obviously we and the Virginia people are doing a pretty good job with regard to that. Is that a fair statement?

Mr. **Mead**. Yes. You are using CMAQ funds. And as I said——

Mr. **Wolf**. Would this be a standard you would put in? How would you apply this as one of the standards? Because you also said, and I don't want to take up the committee's time, there are some States that would not be that flexible for different reasons. Would this be a way to build flexibility in?

Mr. **Mead**. We are intending to use this information as a baseline. It was authorized for the first time of course in 1991. Virginia is one of those States that is out front in using the flexibility provisions. I think it is a little early to tell what direction the States are going to go in. We are just watching it for the time being.

There are a lot of reasons why you don't see flexibility in a number of States. One is a cultural one. Many State transportation departments are not accustomed to dealing with mass transit in big ways. They are more into highways. They say, wait a minute, you are talking about taking money away from highways to go to mass transit. This is true sometimes even in the converse, the cities aren't always open to going towards highways.

I think a big stumbling block right now and this is facing Virginia, too, is knowing how to make the best trade-offs between investments. The models for doing this are not very well advanced and the States are looking for guidance, not rules but methodological assistance, in modeling how to make transportation trade-offs and in this country in general, Mr. Wolf, the art there is just not well advanced.

Mr. **Wolf**. The last question for this round, I think, on page 12, you say in 1991, 35 States restricted the use of their motor fuel tax revenue to highway or bridge use only; therefore about $13.5 billion out of a total motor fuel State tax collection of $19.3 billion could not be considered for mass transit projects. Elaborate a little bit and tell us why that is important.

Ms. **Jones**. I think that is important. We were told in the States and localities that we went and visited that basically what that limits is the pool of State money for transit match. For example, there is a dedicated pool from State gas tax revenue for highway match. However, that limits the pool for a transit match, so States saw that as a barrier to the use of funding flexibility.

Mr. **Wolf**. Is that because they are rural States, or things haven't changed?

Ms. **Jones**. Things just haven't changed basically. A number of States have tried to make a change in that and the voters have voted it down. They still want the gas tax revenues dedicated to highway use.

Mr. **Wolf**. Thank you very much, Mr. Chairman.

ESTIMATED HIGHWAY TRUST FUND RECEIPTS

Mr. CARR. Thank you, Mr. Wolf.

Turning to some questions about your testimony with regard to trust fund receipts, the appendix to your statement, Appendix II, shows the recent fluctuations in the revenue to the highway trust fund over and under the estimate. Most recently in April of 1993, there was an estimated tax receipt of $133.3 billion and apparently $2.2 billion came in over what was estimated. Is that correct?

Mr. MEAD. No, sir, that column was intended to indicate that that is the amount of the shift from the prior estimate.

Mr. CARR. Oh, from the prior estimate. Okay. I am glad I asked that question, because I was a little confused about the chart.

Do you know the reasons for the changes in projected receipts as depicted here?

Mr. MEAD. The administration estimates over the period of time covered here, January 1992 to April 1993, the economic growth projections dealing with disposable personal income changed. Kind of a converse bell curve one might say.

Mr. CARR. It seems we need a fourth column here which would be what the actual receipts were.

Mr. MEAD. This is for the estimated period 1992 through 1999. It is how much they were estimating they would get out into the future.

Mr. CARR. I understand. But don't we know how much they got in January of 1992?

Mr. MEAD. No, they don't know that yet.

Mr. CARR. Really? Over a year ago.

Mr. MEAD. They might have it from January of 1992. FHWA may have that information, but it is my understanding that the actual recordation of how much they got, that there is a time lag that is fairly substantial.

Mr. CARR. I wonder why it would be that substantial. I mean, it would seem to me, that we would be able to get it.

Ms. JONES. I think that the total you are looking at, for example, January 1992, the $140.4 billion, that is a cumulative total of tax receipts from 1992 to 1999, so even if the 1992 were available, that would just be one small piece of that overall total.

Mr. MEAD. This first column which is not entitled—that first column is the date on which the estimate was made.

Mr. CARR. I see.

Mr. MEAD. That was our oversight. We should have captioned that column.

Mr. CARR. All right.

Mr. MEAD. Not date of receipt of taxes.

Mr. CARR. All right. Date estimate made. Well, that clarifies about five of my questions.

But still, the point is that the estimates vary quite a bit with changes of as much as $9 billion in the space of a year. How comfortable are we that the projections of the revenues to the trust fund are within an acceptable range of accuracy?

Mr. MEAD. I don't feel that comfortable. One of the issues that is facing this subcommittee in particular is that if there is another dramatic fluctuation the task is going to fall to this committee to do something about it.

Normally, you end up in an authorization period with $9 or $10 billion of a cushion that you can count towards succeeding authorization periods. It is going to happen at the end of this one for ISTEA that you will have less money in reserve, about $1.4 or $1.5 billion only. So we are cutting fairly close to the bone in these estimates. Normally, FHWA likes to have a minimum cash cushion of $3 billion to accommodate and to take into account these fluctuations. We are very close to the line here.

Mr. CARR. So in other words, your testimony is that we ought to be aiming, given the fluctuations in the estimates of revenue, we ought to be aiming at a $3 billion cushion.

Mr. MEAD. That is the normal one. Just for the record, I don't know if I have it here, but I wanted to mention what they had concluded the other authorization periods with and it was a sum substantially greater; $12 billion is what you had from the 1987 authorization into ISTEA.

This time, you are very, very close, as I said earlier, and $1.5 billion is the current estimate, and that is assuming the full 2.5 cents of the tax that is currently credited to the general fund is changed so that it is credited to the highway trust fund.

Mr. CARR. Well, that doesn't come in until October of 1995.

Mr. MEAD. That is correct, sir.

Mr. CARR. That is still quite some ways in the distance and I guess my question is basically, is how reliable do you feel that is? The administration said they will do it but that is over two years away.

Mr. MEAD. If the 2.5 cents is not credited to the trust fund, the table of problems facing this subcommittee increase exponentially. We would be talking about not just a $1.5 billion problem. We would be talking about a $7 billion or $8 billion problem.

Mr. CARR. Negative.

Mr. MEAD. Yes. And beginning in 1995, you would have to take the ax to State apportionments in the neighborhood of $2 billion or $3 billion a year.

Ms. JONES. I think because of these wide fluctuations in revenue, that is why our prepared statement said we really need to monitor what is happening with the trust fund.

Mr. CARR. Let me be real clear about that. If the 2.5 cents doesn't come in, your testimony is this Committee will have to take the ax to State apportionments by somewhere between $2 billion and $3 billion a year starting in fiscal year 1995.

Mr. MEAD. Yes, sir. FHWA will have to cut apportionments.

Mr. CARR. So a year from now, but you see a year from now we won't know for certain whether that 2.5 cents that was announced to come in will actually come in. In 1995 if we don't cut by $2 billion to $3 billion State apportionments, then we have to count on that 2.5 cents coming in.

Mr. MEAD. Absolutely.

Mr. CARR. And only two cents is coming into highway?

Mr. MEAD. That is true.

Mr. CARR. Did your analysis take into account that?

Mr. MEAD. Yes, it did.

Mr. CARR. Now on top of that, did your analysis take into account any effects of a Btu tax on fuel consumption?

Ms. JONES. No, it did not.

Mr. MEAD. No.

Mr. CARR. And similarly, I suppose the answer is that you did not then assess the effects of exempting alternative fuels from the Btu?

Ms. JONES. That is correct, we did not.

Mr. MEAD. That is true. We can say that if the Btu tax prompts a shift, the shift will probably first show up in your fleet cars, and that could be toward ethanol which generates less revenue.

Mr. CARR. So in other words, if we count on the 2.5 cents, basically 2 cents of the 2.5 cents, we are going to have a cushion of $1.5 billion, which is below what some of these fluctuations are in estimates alone, just the raw estimates sitting out there relative to economic activity?

Mr. MEAD. Yes, sir.

Mr. CARR. And then the 2.5 cents might not come back in. I would assume that the administration having announced that they would be good for it, but who knows what else is going on in the world at the time. Then there is the Btu tax and the possibility of an alternative fuel exemption from the Btu tax and that would seem to me prudent but it will probably eat up that $1.5 billion. So I mean, being very conservative about it and not wanting to cut State apportionments in 1995 or 1996, it would seem to me that this Committee ought to take a conservative assumption; would you agree?

Mr. MEAD. I think you should take a conservative assumption. When we did our report, we were not assuming full funding of ISTEA. Our estimate of the $6 billion or $7 billion shortfall was predicated on the assumption that there would not be full funding of ISTEA this fiscal year and that in all other years there would be full funding.

Now, when full funding for fiscal year 1993 is put on the table, which is what is proposed in the stimulus package, that increases the shortfall to about to about $10 billion if you do not get the 2.5 cents. If you do get that, the projected end of authorization balance is $1.5 billion, which is substantially less than the way they normally end a reauthorization period.

Mr. CARR. I think this is a very important point and I want the record to be clear, and more important, I want to be clear. Would you restate what you just said?

Mr. MEAD. Our report in 1992 assumed that in fiscal year 1993 there would not be full funding of ISTEA. That decision had already been made by the subcommittee and we thought it was fair to assume that. We did not know at the time that President Clinton—who had not been elected yet—would be proposing the stimulus package which would propose full funding for fiscal year 1993.

Now, if the stimulus package for fiscal year 1993 were enacted, it would result in full funding for ISTEA for 1993. Our analysis assumed that for years after 1993, ISTEA would be fully funded.

Now, with less than full funding in 1993, our projections were that you would face about a $6 billion shortfall over the life of ISTEA.

Mr. **Carr**. Okay. Let's work on that assumption because I think that full funding in 1993 is dead.

Ms. **Jones**. Mr. Carr, just one point to add to what Mr. Mead said. Our report assumed that the highway program would not be fully funded throughout the life of ISTEA, not just for 1993. That was just the one addition.

Mr. **Carr**. Your report assumed?

Ms. **Jones**. Our report assumed that there would not be full funding during the life of ISTEA. The current assumption that Mr. Mead was making in terms of supporting the $10 billion shortfall, that is assuming full funding throughout the entire ISTEA period.

Mr. **Mead**. Assuming less than full funding takes you down to a $6 billion shortfall.

Mr. **Carr**. In other words, your report did not assume full funding for 1994 and 1995, either?

Mr. **Mead**. I was incorrect.

Mr. **Carr**. What level of funding were you assuming?

Ms. **Jones**. We carried out a little over $19 billion a year.

Mr. **Carr**. $19 billion.

Ms. **Jones**. That was the level of obligations that we assumed.

Mr. **Carr**. Okay. So again, your 1992 report which I think is valid in light of yesterday's action in the United States Senate that puts your 1993 assumptions back where they were, assumes $19 billion a year and said that without the 2.5 cents or 2 cents—you were saying 2.5 cents.

Mr. **Mead**. We are assuming a half a cent to transit and two cents to the highway administration.

Mr. **Carr**. You assumed that?

Mr. **Mead**. Yes. But the report that the 1992 report did not assume—it said that that would be an option for the committee to consider in dealing with the projected $6 billion shortfall.

If you get the 2.5 cents going to the trust fund, you will not have a problem without full funding of ISTEA in fiscal year 1993. You should not have a problem if you get the 2.5 cents.

Mr. **Carr**. Okay. So we are only going to get two cents in highway now and you assumed that?

Ms. **Jones**. We just assumed the two cents, correct.

Mr. **Carr**. You just assumed the two cents?

Ms. **Jones**. Correct.

Mr. **Carr**. In your 1992 report.

Ms. **Jones**. No. I am sorry.

Mr. **Carr**. I am getting a little confused about your assumptions for 1992. I think we have to differentiate where your assumptions are shifted from the 1992 report.

Ms. **Jones**. Correct. If you look——

Mr. **Carr**. I just made a list here. Of what your 1992 report assumes and doesn't assume. Again, assume no full funding of ISTEA in 1993. You assumed $19 billion a year for the remainder. You assumed 2.5 cents.

Ms. **Jones**. We did not assume the 2.5 cents from the revenue side. From the revenue side, what we used were revenue estimates from July 1992, which did not include the two cents.

Mr. **Carr**. So you assume 1992 revenue estimates——

Ms. **Jones**. Correct.

Mr. CARR. —which according to this chart was $134.4 billion; is that right?

Ms. JONES. Correct.

Mr. CARR. Okay. So you didn't assume anything about the two and a half cents?

Ms. JONES. Correct.

Mr. MEAD. The purpose of our report was to take what the projections were for revenue, and how much of the gas tax was then going to the trust fund, and to say to Congress, we have a problem here based on the authorization levels and it is going to come out to be about a $6 billion problem.

Then we laid out some options for the Congress to consider, one of which was the transfer of the two cents extra gas tax to the trust fund.

Mr. CARR. You assumed two of the 2.5 cents?

Ms. JONES. Correct. For today's testimony, we considered two cents to the highway account.

Mr. CARR. Okay.

Ms. JONES. And we also assumed full funding for ISTEA, which is the other element you were mentioning.

Mr. CARR. You assumed two cents and you assumed full funding in——

Ms. JONES. For the life of ISTEA.

Mr. CARR. For the remainder, 1994, 1995, 1996 and 1997?

Ms. JONES. Correct.

Mr. CARR. And you assumed the 2.5 cents when? When did you assume it came back?

Ms. JONES. It came back as the administration is proposing it.

Mr. CARR. In October of 1995?

Ms. JONES. Yes, sir.

Mr. CARR. Okay. And with those changed assumptions, what is the bottom line; $1.5 billion?

Ms. JONES. Yes, sir. $1.5 billion.

Mr. CARR. Surplus?

Ms. JONES. Yes, sir.

Mr. CARR. One point five to the good rather than $6 billion minus?

Ms. JONES. Correct.

Mr. CARR. Okay. I think that clearly lays out where your 1992 report was.

Now, your testimony today, however, is that estimates from the trust fund fluctuate by about $9 billion. I mean they have historically. So a $1.5 billion surplus in the trust fund is not a healthy enough cushion to provide reliable funding and steady State funding.

And you make no assumptions about Btu tax and Btu tax exemptions to alternative fuels which would wipe out the $1.5 billion.

Ms. JONES. That is correct. We make no assumptions about either of those things.

Mr. CARR. What level of economic activity does this assume?

Mr. MEAD. All I can tell you, Mr. Chairman, is that it assumes a good outlook for more disposable personal income. We have to get back to you on the specific components of that estimate.

Mr. CARR. I wish you would. I think it is kind of important because, like you say, if we are going to monitor this thing carefully we are going to have to monitor it from certain baselines like disposable income and the growth rate of the economy.

Mr. MEAD. The estimated tax receipts are not GAO's conclusions. Those are Treasury's.

Mr. CARR. All right. In other words, the President is proposing for fiscal year 1994 full funding of ISTEA but given what you have told us a more cautionary approach might be indicated. If we are going to assure people that they are not going to suffer a decline in 1995 and 1996, we ought to approach the full funding with a good deal of caution in 1994, not being draconian about it. My goal is to attempt to assure States and local units of government and the construction industry and the rest that they will have a steady flow of funds. We have heard testimony over and over again that while everyone would love more, what they really want is steady, don't fluctuate our funding, don't have us high one year and low the next, we can't plan. We can't get economies of scale. It dangles us on a string. Don't dangle us on a string, you know. Give us something steady, even if it is not the totality of what we want. So, in other words, your testimony and your advice to the Committee seems to be, to take a cautious and prudent approach aiming at least toward a $3 billion cushion which may mean that it would not be wise this year to fully fund ISTEA in fiscal year 1994. Is that putting too many words in your mouth?

Mr. MEAD. I think so. I would approach, as you say, fiscal year 1993 and 1994, as well as the other years for that matter, with a lot of caution and prudence. We are nervous about the uncommitted balance of $1.5 billion. That does seem to be a very close call for closing out an authorization period. We would also like to see a cash balance more in the neighborhood of the customary $2 million to-about the $3 billion level. I think basically it is a judgment you would have to make about what that means on the obligation limitations on the States.

Perhaps attention to the demonstration projects, Mr. Chairman, would give you some room on the obligation limitations that you may be considering.

Mr. CARR. In other words, we are so close now that demonstration projects could really cloud the future?

Mr. MEAD. Yes, sir, and frankly, I see a linkage between the demonstration projects and how much money you are going to be able to have available when you consider obligation limitations. Too many more demos and, well, even the ones that we have on our plate are causing some pain because, as I said, if that demo money is set aside it is not available for you to consider.

Mr. CARR. Well, one answer to the demo linkage would be to limit it to four years.

Mr. MEAD. Yes, sir.

Mr. CARR. Another option might be to say that, okay, that demonstration project found its way into ISTEA but not at 100 percent financing. If they come to this Committee for the make up dollars, then they are going to be subject to this Committee's criteria. If we are tough about it, then maybe we can eliminate some of those.

Mr. MEAD. Yes. It is a certainty that the $6.2 billion in authorizations for ISTEA demos will not come close to financing those projects.

Mr. CARR. What if the Committee were to send a letter out to every State department of transportation saying that demonstration projects would not be financed beyond their authorized level unless a new submission to this committee were made?

Mr. MEAD. That——

Mr. CARR. Do you think it would have some highway departments making some decisions about whether they really wanted to finance the remainder of this project, because you may not get any more Federal money for it. And where does it then fit in your State priority scheme?

Mr. MEAD. I think almost certainly, actually, it sounds like a really good idea and it is possible.

Mr. CARR. It sounds like an idea to make Bob Carr awfully unpopular. We got a problem here.

Mr. MEAD. I am not sure that there has been a formalized effort where the States have been asked, what are your intentions with respect to this project, and it seems like a fair question since you have been asked to finance $6 billion in projects. You have a track record of knowing that usually the amount of money you authorize isn't going to be enough for the project and that the States in some cases aren't even starting them. Maybe the States would welcome a question like, what are your intentions with respect to this demo and there could be even incorporated in that something Mr. Wolf was suggesting about what their thoughts are on the benefits that could be derived from these projects.

CRITERIA FOR DEMONSTRATION PROJECTS

Mr. CARR. Well, is that beginning to segue into the whole issue of project criteria? But before moving to that and not wanting to leave the area of revenues to the trust fund, I would like to ask, Mr. Foglietta if he has any questions.

Mr. FOGLIETTA. No.

Mr. CARR. Mr. Wolf?

Mr. WOLF. No.

Mr. CARR. Mr. Price or Mr. Coleman?

Mr. COLEMAN. No.

Mr. CARR. I am very pleased that your statement addressed criteria for demonstration projects and of course you have attended enough of these hearings to know I feel very strongly about criteria. I talk about it a lot. While some people are talking about full funding of ISTEA, I talk about criteria.

As I said, we have talked to a lot of experts and we have some ideas to track closely with the other observations that you have made and you have helped us with.

But let's sort of put the shoe on the other foot. You have expressed some reservations about rate of return analysis, saying that it can be imprecise and manipulated. I think that is probably self-evident. You can make statistical analysis. You can massage statistical analysis until it will almost do whatever you want it to do. But is it totally irrelevant to try to get an economic rate of return? Doesn't it at least move the debate to something that at least purports to be measurable?

Mr. MEAD. Yes, sir. We don't mean to imply that rate of return and cost-benefit analysis, things of that nature, ought not to be pursued. They should be pursued vigorously. But we will need some rules of the road. Some parameters, if you will, that will guide what people will say about what their rates of returns are.

Some years ago, there was a requirement that when you came in with a demo that you had to have a cost-benefit analysis. It didn't work very well and the reason it didn't work very well was because there were no rules of the road governing how one would do a cost-benefit analysis. Also, rates of return and cost-benefit analysis, as you know, can be manipulated. We do need some generalized criteria and should pursue that vigorously. And as I understood you, that was what the general strategy of what the subcommittee was going to be.

Mr. CARR. We have taken to heart some of your comments and others that have been made. I think what we will try to do, and let me test this idea out on you, we are going to ask people to give us their own economic rate of return analysis, but knowing full well that that might be manipulated.

We are also going to ask them for certain types of raw data against which we will apply our own economic rate of return analysis. If their rate of return analysis comes in within a reasonable margin of what we estimate that it should, based on the data that they give us, then we will probably have a fairly high confidence that they went through some methodology that was not manipulative but dealt with real measurements and made a serious effort.

On the other hand, if they give us certain data that we put through a number crunch and come out with a rate of return and then they come in with something which is greatly inflated, then we will know that their rate of return has got more politics in it than economics and then we will begin, at least at this point, to ask some questions and maybe we were wrong. But at least then the debate will be over what is measurable as opposed to who has the best judgment or who has got the strongest hype I guess you might say about something.

Mr. MEAD. I think that is very useful. You know, that is one of the principles underlying total quality management, too. When there is a data perturbation like you were suggesting, beyond certain ranges that were considered to be generally reasonable, or when you saw a spike and said, gee, look at all the benefits of this one, that would result in much greater scrutiny by the Subcommittee and call for additional explanations and so forth.

Mr. CARR. Some, including AASHTO, where they put an historic rate of return analysis on types of projects so that you also get a range.

Mr. MEAD. That would be a good reality check.

Ms. JONES. I agree that that might also be a check. I would say the only caution I have refers to some analysis that CBO did in terms of return on maintenance. They had an overall return on maintenance investment between about 30 and 40 percent. But, when you got behind their numbers you got very different rates of returns when you were looking at urban maintenance problems versus maintenance on rural roads. So I think those broad parameters would be a good check, but again there is some variability in the precision by which some of these analyses are done.

Mr. CARR. Let me say, our notion is that we are not going to end up being very precise. I think what we really end up doing is, number one, deterring people from even asking us because they know they can't make something in the ball park.

Number two, if they do ask us, it had better fall within a respectable range, otherwise it gives us in gross terms the ability to say, hey, pal, your project just doesn't make it when stacked up against all other similar projects in the country, you are asking for a gift, you are not asking for an investment and we don't have the money for gifts. We have some money for investments. I don't think we are going to be able, at least on our first cut, we don't expect to be able to decide between the number one and the number two project.

I mean that isn't the game here. The game is to try to decide between projects that are win, place, and show and instead of projects that are dogs that can't get out of the starting gate. Now maybe five years from now the Committee will have refined its methodology with the help of folks like you and others down at DOT and maybe we can do a little better job at it, but this is a first effort.

Ms. JONES. I think the other thing that your effort does is start the community thinking about these projects as investments which is a very great step forward.

Mr. CARR. One of the goals that we also need to be pointing toward in the future is trying to get some ability to get investment decisions across modes. Now I am under no illusion that we can do that this year. We just don't know enough but perhaps some of the historical data that we will develop this year and maybe next year and on into the future will enable the Committee in the future to begin to attempt a cross modal analysis as well.

We always would solicit your help. You have been great to give us help about how we go about this and we will want to consult with you because ultimately in future reports you are not only going to be auditing the performance of the Federal highway in these matters. You are going to end up auditing how good we were in making some judgments, so we look forward to working with you.

Mr. MEAD. Mr. Chairman, may I make one observation? We issued a report last year that dealt with the criteria issue generally, mostly in the context of making cross modal trade-offs, and in my view the points made in that report were equally applicable and as persuasive when applied to investments in a particular mode. Helping the States, giving the States assistance in making these trade-offs through models is essential. The response to that report by DOT said that, well, we don't want to get in the business of coming up with criteria. That is not an appropriate Federal role. We were a little concerned about that and I think the Department of Transportation has since been moving out to implement that recommendation.

But we didn't have in mind a set of rules that is going to lock in, for example, the State of Virginia or the State of North Carolina.

It was simply a recognition that trade-offs are going to be essential, and that the Department of Transportation seems like the flagship vehicle for defining these criteria, not that they would operate as rules and regulations, though.

Mr. CARR. Anyone have any questions?

Mr. WOLF. Yes.

Mr. CARR. Mr. Wolf.

Mr. WOLF. Mr. Chairman, I do not have a question, just a statement. I want to thank GAO and Mr. Mead for doing this and I appreciate the Chairman's effort on this. This really boils down almost to a moral issue in some respects: The obligation of spending the taxpayers' money in an appropriate way.

What the Chair is trying to do is appropriate. It may end up hurting some people, and some of us up here who have a project and are anxious to please someone in our congressional district and find that it doesn't meet the test. I think our economy may drop off next year with what the administration is doing and, the initial taxes that may come. We will have a downturn if you add a Btu tax and some of those other things. I think we are obligated to be good stewards of the taxpayers' monies perhaps much more aggressively than we have been in the past.

I want to let the Chairman know that I support what he is trying to do and will support him as these issues come up and knowing they may come back and bounce on some of us that actually sit here. Also, thank you, Mr. Mead. It is almost like you are a member of this committee. Every time I walk in here you are sitting there, but I want you to know that I appreciate the work that you have all done. Thank you, Mr. Chairman.

Mr. CARR. Thank you, Mr. Mead. Thank you, Ms. Jones.

STATEMENT OF DEAN CARLSON

Mr. CARR. Our next panel will be led by the Executive Director of the Federal Highway Administration, Dean Carlson. Mr. Carlson will be joined, I am told, by three key members of FHWA and I will let Mr. Carlson make the introductions.

Your statement will be included in the record in its entirety. I would ask that you summarize the high points, and then we will get to questions.

Mr. CARLSON. Thank you, Mr. Chairman.

I am happy to be here today and have this opportunity to testify. It has been a pleasure working with you in the past occasions that we have had the opportunity to do so and I hope to do so again.

I was particularly pleased that we were able to introduce the gentleman that the President intends to nominate at the IVHS meeting, Rodney Slater, and the proposed Deputy Administrator, Jane Gavree. They are people that we are familiar with and we know we are going to have a good leadership team for the next few years.

The President's budget fully funds the fiscal year 1994 Federal Highway Administration under ISTEA. That would be a total obligation of $20.9 billion.

ECONOMIC STIMULUS ACT

We, as you mentioned, were very disappointed at the action in the Senate that the highway portion of the President's stimulus package apparently did not survive. That full funding would have enabled us to finance much needed highway projects as well as introducing the intermodal features of ISTEA to foster these transfers. It is much more difficult to use a flexibility in ISTEA with a reduced funding level because, very honestly, the competing interests in many major urban areas start to become less willing to work together to do the things that the new philosophy of ISTEA puts on the table if they can't get their share of what they thought they would get out of the money.

HIGHWAY TRUST FUND

The discussion with Mr. Mead was very interesting in the sense that we are very concerned as well about the revenues to the trust fund. I will just add a couple of points to that. The estimates from the Treasury is what we base our projections on. We will have, I think, three additional estimates from Treasury so we can track how well these revenues are coming in over the next two years. We do have a window before we have to make a decision in 1995 as to whether the Byrd amendment kicks in. Another thing is if the two cents of the money that now goes to the general fund for the deficit goes into the highway trust fund and we do run short basically because of that $1.5 billion balance that Mr. Mead was talking about, our budget has a provision that we can borrow from the transit account. This account probably will have a balance in the neighborhood of $10 billion at the end of ISTEA. So we feel, sir, that we are covered in our projections if the two cents is put into the trust fund starting in fiscal year 1995.

1994 BUDGET REQUEST

We think that the investment in new technology is essentially to the Nation's competitiveness and the capacity of our highway system. The budget, therefore, requests a $101 million for IVHS, and when we combine that with $113 million from ISTEA, this provides a 50 percent increase in fiscal year 1994 for this program. We are requesting $65 million for the Motor Carrier Safety assistance program which is a high priority with us in the administration. We are also requesting new budget authority of $36 million for the Federal Lands Program which will permit much needed projects to be addressed in our National Parks and on Indian reservations.

As in many hearings that I have been attending with this committee, there has been a lot of discussion on general operating expenses and we certainly are ready to do that. This year our request for general operating expenses, not including IVHS initiative and office space rental, is essentially a flat request. I just want to mention that because since we did come in with essentially a flat request and we do have a program to administer that is rather complex based on ISTEA legislation, we really hope that we will receive that request in the necessary funding to be able to properly administer our program.

Since the statement is on the record that is all that I have to open with. We would be happy to take your questions, Mr. Chairman.

[The prepared statement of Dean Carlson follows:]

STATEMENT OF
E. DEAN CARLSON

EXECUTIVE DIRECTOR
FEDERAL HIGHWAY ADMINISTRATION
DEPARTMENT OF TRANSPORTATION

BEFORE THE
HOUSE APPROPRIATIONS
SUBCOMMITTEE ON TRANSPORTATION

APRIL 22, 1993

Mr. Chairman, Members of the Subcommittee. Thank you for providing me the opportunity to testify in support of the Federal Highway Administration's (FHWA's) FY 1994 budget.

With me this morning are Mr. Anthony R. Kane, Associate Administrator for Program Development; Mr. Dennis C. Judycki, Associate Administrator for Safety and System Applications; Mr John A. Clements, Associate Administrator for Research and Development; Mr. George S. Moore, Associate Administrator for Administration; Ms. Madeleine S. Bloom, Director, Office of Policy Development; and Mr. John P. Eicher, Director, Office of Program Management Support, Motor Carriers.

OVERVIEW

The FHWA's budget proposal for FY 1994 reflects the continuing emphasis on the implementation of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and the long-term commitment to the investing in America's infrastructure. Capital investment in infrastructure supports job creation both directly and indirectly and facilitates the productivity of American business by supporting more efficient transportation of people and goods. This is a top priority for both the Department of Transportation and the FHWA. I would like to take a minute or two and highlight some of our budget proposals.

The budget is divided into the regular funding level and an investment initiative with the request totaling $20.205 billion.

The 1994 budget allows Federal-Aid Highway program funds to be used at the level specified in ISTEA. This helps advance the purposes of this legislation, which is "to develop a National Intermodal Transportation System that is economically efficient and environmentally sound, provides the foundation for the Nation to compete in the global economy and will move people and goods in an energy efficient manner."

This Federal-Aid assistance funding will expedite the planning, development, and implementation of State and local projects for the National Highway System (NHS), the Surface Transportation Program (STP), the Interstate System, the Bridge Replacement and Rehabilitation Program, the Congestion Mitigation and Air Quality Improvement Program, the Federal Lands Highway

Program. Federal-Aid funding is also proposed for Minimum Allocation, Donor State Bonuses, Hold Harmless provisions, and the Intelligent Vehicle-Highway Systems (IVHS) among others; as well as providing continuing support for highway safety research, development and technology transfer.

The major programs within the Federal-Aid Highways account are:

- **National Highway System**: NHS is envisioned to consist of 155,000 miles (plus or minus 15 percent) of major roads in the United States, including all Interstate routes, a large percentage of the urban and rural principal arterials, the defense strategic highway network, and major strategic highway connectors. It will focus Federal resources on roads most important to interstate travel and national defense, roads that connect with ports, airports, and other modes of transportation, and roads essential for interstate and international commerce. This system, which will be proposed by the Secretary of Transportation this year after consultation with the States, by law must be designated by September 30, 1995. In the interim, the NHS consists of highways classified as principal arterials.

- **Surface Transportation Program:** STP is a key flexible feature of ISTEA and is a program under which funds may be used for projects on public roads (including NHS) that are not functionally classified as local or rural minor collectors or for mass transit projects. These roads are now collectively referred to as Federal-Aid highways. Bridge and Safety projects paid for by STP funds may be on any public road. An example of this flexibility is transit capital projects which are eligible for funding under this program. Ten percent of the funds provided for the STP are set-aside for hazard elimination and rail-highway grade crossings construction improvements. These funds may be used on any public road except the Interstate System. STP funds are also distributed to localities which helps to integrate funding with the planning process.

- **Bridge Replacement and Rehabilitation Program:** The Bridge Replacement and Rehabilitation Program continues to provide assistance for structurally deficient or functionally obsolete bridges on any public road. The ISTEA provides substantially higher funding levels and broader program eligibility than in the past.

- **Congestion Mitigation and Air Quality Improvement Program:** This program funds surface transportation projects which help non-attainment areas meet the national ambient air quality standards. If a State has no non-attainment areas for ozone, carbon monoxide and small particulates, the funds may be used as if they were STP funds.

- **Federal Lands Highways Program:** The Federal Lands Highways Program continues authorizations in three categories: Indian Reservation Roads, Park Roads and Parkways, and Public Lands Highways. Funds for these programs are allocated on the basis of relative need to support protection and enhancement of Federal lands, recreation travel, tourism and economic development of adjacent communities.

- **Other Programs:** Other programs consists of Congressionally designated highway programs which include: High Cost Bridges, Congestion Relief, High Priority Corridors on the NHS, Rural and Urban Access projects, Priority Intermodal projects, and Innovative Projects. In addition, there are several equity related Federal-Aid categories that deliver additional funding to certain qualifying states. These include Minimum Allocation, Donor State Bonuses, and Hold Harmless.

Of the $18.303 billion obligation limitation for FY 1993 (including $2.976 billion for the Economic Stimulus Proposal), the States, as of March 30, 1993, had obligated $7.864 billion. Obligations in FY 1993 are approximately 17 percent higher than the same period in FY 1992. We continue to stand ready to help States accelerate obligation of Federal-Aid funds, in a manner consistent with the need to ensure compliance with applicable laws and sound management procedures to protect against waste, fraud, and abuse. I believe such acceleration will benefit the national economy as well as the economy of each State.

At the same time, we certainly agree with the philosophy of using these dollars for wise investments. Therefore, we will be working with the States to focus on actions that will make the best use of surface transportation dollars in keeping with the idea of "smart spending." Examples of such initiatives include management systems and the quality initiative.

We also have a wide array of tools that allow us to do cost beneficial investment analysis from a broad national perspective. However, through ISTEA requirements and our promoting of cost benefit techniques, we believe the States will do project level analysis as well.

KEY ELEMENTS OF THE FY 1994 BUDGET

FHWA continues to implement a restructured Federal-Aid Highway program which will address the changing needs for America's future. We are acting aggressively to advance national goals for sustained economic growth and enhanced international competitiveness, as well as addressing key environmental issues and promoting safety on our highways. By continuing with these ISTEA initiatives, we can ensure America's ability to compete in the global marketplace of the 21st century.

Our proposal includes budget authority of $21 billion, obligations of $20.911 billion, and outlays totaling $20.205 billion. I will briefly review each of our major programs.

FEDERAL-AID HIGHWAYS

For Federal-Aid Highways, we are proposing a FY 1994 obligation limitation made up of three elements: a baseline amount ($15.741 billion); an investment initiative ($2.621 billion), which would produce a limitation equal to the authorized ISTEA amount ($18.362 billion); and an increase in the Federal Lands program authorized ($36 million) to address the growing backlog of road projects on Federal lands. The total obligations would be $20.515 billion when other program obligations exempt from limitation ($2.117 billion) are included. The exempt programs would be those exempt under the 1993 Appropriations Act, and the provisions of ISTEA. The General Provision on Federal-Aid Highways includes language which would continue to provide funds ($15 million) for the Recreational Trails program and for the Office of Intermodalism ($1.1 million) in FY 1994. A liquidating cash appropriation $18 billion is requested for FY 1994.

LIMITATION ON GENERAL OPERATING EXPENSES

The Limitation on General Operating Expenses (LGOE), which controls virtually all of the administrative costs associated with the Federal-Aid Highway and Motor Carrier programs of the FHWA, is budgeted at $489.0 million, an increase of $91.0 million above the FY 1993 level. This increase is primarily for an investment initiative of $70 million requested for the IVHS program together with $17.5 million for GSA rents, the funding for which was included in another appropriation in FY 1993. Apart from these specific initiatives, the FY 1994 increases total only $3.5 million to cover the cost of inflation.

The request for LGOE includes $186.3 million for no-year contract programs: $101 million is for IVHS; $42.7 million for Highway Research, Development and Technology; $15 million for Technology Deployment; $10 million for Long Term Pavement Performance Program; $5.5 million for the National Highway Institute; $10 million for Minority Business Enterprise; and $2.25 million for other programs.

MOTOR CARRIER SAFETY ASSISTANCE PROGRAM

The Motor Carrier Safety Assistance Program (MCSAP) was established in 1982 under the Surface Transportation Assistance Act to fund State enforcement of Federal truck and bus safety requirements or compatible State safety requirements. Through this program, FHWA provides grants to fund State programs such as roadside driver/vehicle inspections and carrier reviews. The MCSAP also provides support for essential State safety enforcement activities.

The ISTEA includes $80 million in contract authority for this program in FY 1994. Our budget proposes an obligation limitation of $65 million for FY 1994, which is the same as FY 1993. We are requesting a $68 million liquidating cash appropriation for FY 1994 in order to meet cash payments from new and prior obligations.

HIGHWAY-RELATED SAFETY GRANTS

The Highway-Related Safety Grants program authorizes funds to assist States in implementing highway safety programs designed to reduce accidents, deaths, and injuries on this country's roadways. The ISTEA includes $20 million in budget authority for this program in FY 1994. FHWA is proposing a $10 million obligation limitation for the fiscal year which is equal to the FY 1993 enacted limitation. A liquidating cash appropriation of $10 million is requested for FY 1994.

RIGHT-OF-WAY REVOLVING FUND

The Right-of-Way Revolving Fund was established under the Federal-Aid Highway Act of 1968 to provide loans to States to allow them to acquire critical right-of-way parcels in rapidly developing corridors significantly in advance of construction. In FY 1994, we are requesting a loan limitation for this program of $42.5 million, the same limitation enacted for FY 1993.

CONCLUSION

In conclusion, we have proposed a budget which continues to follow the course established by the ISTEA for this Nation's transportation systems. It also responds to the Administration's guidance on budget constraints, priorities, and policy issues such as advancing intermodalism, optimizing transportation resources, and instituting management savings. Increases, while held to an absolute minimum, are essential for effectively implementing the ISTEA.

Once again, thank you for this opportunity to testify today on our FY 1994 budget request. I would be pleased to address any questions you may have.

FHWA INTRODUCTIONS

Mr. CARR. Thank you, Mr. Carlson.

Before we go to questions, would you introduce the other members?

Mr. CARLSON. I am sorry I neglected to do that. I have with me at the table, Mr. Dennis C. Judycki, who is Associate Administrator for Safety and Systems Applications; and John Clements, who is Associate Administrator for Research and Development; and John Eicher, who is the Acting Associate Administrator in the Office of the Motor Carriers. Also behind me I have with me for help and advice as needed George Moore, the Associate Administrator for Administration; Madeleine Bloom, the Acting Associate Administrator for Policy; and Tony Kane, the Associate Administrator for Program Development.

HIGHWAY PERFORMANCE MONITORING SYSTEM

Mr. CARR. Thank you and welcome to all of you.

Mr. Carlson you heard the exchange we had with GAO regarding project criteria. I would like to discuss some of those efforts that FHWA has under way to try to attempt the same goal.

I want to thank all of you for coming up here and spending a good part of a day briefing us on what you are doing. Could you briefly tell the rest of the committee a little bit about the HPMS, the highway performance monitoring system, and just give us a brief overview of what that is and then add to that the layer of the HERS system, the highway economic requirement system? The rest of the Committee members might know some full pioneering work you have done.

Mr. CARLSON. The HPMS is I think in the neighborhood of 13 to 14 years old now. It gives us a broad level analysis of whether or not the conditions and performance of highways and bridges in the country is improving or deteriorating. It is not a 100 percent sample of all systems and it is not project oriented so it has some shortcomings. However from a system basis and using data that is consistent by State, we are able to make projections of how the conditions' performance varies in individual States so that we can get some idea of value States get in improving their systems out of the money that is made available to them.

One of the problems with the condition and performance monitoring system has been that it doesn't really take into full account the highway user cost of either doing or not doing highway improvements. The HERS, as you mentioned, has the intent of adding that feature to the ability to analyze highway investments. That is sort of a thumbnail sketch.

Mr. CARR. I was hoping that you would put on the record the fact that HPMS is, in fact, a real database of highways and segments of highways throughout America, and I understand that fully 50 percent of the interstate highway systems are sampled for that database?

Mr. CARLSON. In the past, that is true. In the future, we intend to have condition and performance information on 100 percent of the interstate system.

Mr. Carr. Can you give us a rundown? I know this is awfully technical. I think it is important for the other Members of the Committee to know. Maybe someone here can tell us some of the parameters of a record in that database and what it contains.

Mr. Carlson. I can take a shot at it, but you are correct, it is rather technical.

Mr. Carr. I am trying to let you off the hook here. This isn't a pop quiz, but we had a tremendous meeting with your folks and they gave us a great deal of detail. It was very helpful and, quite frankly, to this Member of Congress enhanced my confidence in the level of work you are doing in terms of analysis.

It was during the recess period and other Members couldn't be here. I just want to capture some of that to hopefully enable my colleagues on the Committee to have the same degree of confidence that I have in what it is you are doing. So could you give us methodologically how you get the segment, what you look at and how the record is created and how it fits into the larger hole in detail?

Mr. Carlson. I will take a crack at it and let the people that are more expert in it than I am come up if they choose to.

The system will be providing a 100 percent sample of the Interstate System and will include a condition survey of all payment. It will include traffic data and geometric data to the extent that is valuable in determining highway user cost. It will include traffic projections, also a split between truck volumes and motor vehicle volumes so that we can get some idea of loading on the pavement.

It will give us an indication on the quality of the surfaces and bridges as to what the highway use cost increments might be. It would review a project in excellent shape versus a project that is in poor condition. Those are the things that immediately come to mind. I am sure that there is other data such as location and items that are used more for indexing than they are for condition and performance data or the ability to generate needs information.

Mr. Carr. Is there anyone on your staff here who knows approximately how many fields are in this record?

Ms. Bloom. There are about 100,000 sections from which we draw information but I don't know how many fields.

Mr. Carr. The 100,000 records which in other words each segment on the interstate is a record so you have 100,000 segments. You have 100,000 records and then inside the record there has to be approximately how many fields of data?

Mr. Carlson. I don't know, but we can furnish that for the record.

Mr. Carr. Furnish that for the record.

[The information follows:]

There are 78 data fields in each HPMS sample section record. The revised format for 1993 data to be reported in 1994 will have approximately 82 fields.

Mr. Carlson. In fact, we will give you a copy of the fields so that you can tell what data we are keeping. One thing I want to mention again is that we are going to have 100 percent samples on the Interstate. On the other systems, so that we get good data, we do have a random selection process so that we can extrapolate data with some degree of confidence. This is for the systems that we don't intend to put quite as much emphasize on like the interstate item on our proposed national highway system.

Mr. CARR. Now, for the old urban system, I think the testimony we had earlier was that you sampled about 10 percent of those segments.

Mr. CARLSON. I think that is correct.

Mr. CARR. Ten percent of primary roads, 10 percent of minor collectors and you didn't do anything on local roads, I believe was the information that we had before.

Mr. CARLSON. Local roads are only eligible for certain categories of improvements so it is something we don't spend as much time on.

HIGHWAY ECONOMIC REQUIREMENT SYSTEM

Mr. CARR. Now, the HERS overlays and takes the HPMS data and, as I understand, it enables query of the data hopefully in a more user friendly way than the raw HPMS database. Then it is possible for someone to interrogate, using HERS, the HPMS database and ask the computer rank segments by type and condition and do some kind of crude economic rate of return analysis based on inputs and assumptions that the user puts into the system.

Mr. CARLSON. Correct.

Mr. CARR. We don't have artificial intelligence here and that requires human judgment, but the point is as I am told is that the HERS software will enable users to manipulate the HPMS database trying to optimize certain select criteria; is that correct?

Mr. CARLSON. Yes. The HERS system will use incremental benefit cost analysis to determine which segments or improvements will give us the greatest cost benefit. We would certainly in all honesty be more confident of that on the systems that we have the best database on and have the most adequate samples.

Mr. CARR. And this HERS system combined with the HPMS I am told will be able to take up about a gigabit of disk space and the HERS system would therefore be relatively portable?

Ms. BLOOM. I would say that is correct eventually. As we discuss——

Mr. CARR. Would you identify yourself for the record?

Ms. BLOOM. Mr. Chairman, Madeleine Bloom, the Acting Associate Administrator for Policy. I think what we were talking about will be available on a PC eventually. We are only at the process now where we are debugging for a very initial test. We are hoping to have some information at a national level that we could provide in the next highway conditions and performance report, but it is not totally clear yet because we haven't fully run the tests.

Mr. CARR. So what is called a beta test at this point; is that right?

Ms. BLOOM. Right.

Mr. CARR. And the VOLPE Transportation Center is working on this with you; is that right?

Ms. BLOOM. They have been.

Mr. CARR. But the ultimate goal is to be able to put this database-it could be anywhere. We could have one in this Committee room, right?

Mr. CARLSON. If we can get it to the point where we can get it on a microcomputer certainly that would be good to have.

Mr. CARR. And every State and some of the more major metropolitan areas would similarly be able to have that. In other words, I am trying to get through to the Committee Members here that this is not something that requires a large mainframe supercomputer in Pueblo, Colorado, to do. What they are working on here is trying to enable more people to have access to the tools of decisionmaking.

Mr. CARLSON. We are also trying to test a project we have with AASHTO make the data available in both directions with each of the States. This is something we will be working on as well.

Mr. CARR. Now, it would seem that local officials and State officials could use the system to try to take those segments that are within their State and prioritize them as well; is that not right?

Mr. CARLSON. They can and I think that they should. It will be easier to do as we continue to increase the information we have in the size of the sample.

I have to say one of the problems with it before going from a State to a State basis is the States used a lot of different equipment in order to get condition information. There are a half a dozen different rating systems out there and we have been attempting to develop some uniformity criteria. I think that we are there now, so we can use the data that we are going to be collecting from State A and say your pavement is really this kind of condition as opposed to State B. We have not been able to do that with real confidence before. When we get this kind of data and then get this system up, I think we can do exactly what you just said.

Mr. CARR. Does this imply that you are moving away from the old needs type analysis and toward an economic rate of return or cost-benefit analysis?

Mr. CARLSON. I think we are. Although I think that we still will continue, if we are looking at the size of overall program system, to want to see some sort of a status of whether or not the situation is improving or getting worse out there. For that we will still need to have a needs analysis coming off of HPMS.

Mr. CARR. I might say that the needs analysis is probably very helpful in terms of hyping political demand for more attention to the infrastructure of the country, but once you get past the initial concept of needs, it breaks down in terms of being really helpful about what you need to do.

Mr. CARLSON. One of the things that would add to this system is what we are doing with the pavement and bridge management systems. We are going to make it as easy on us and the State as possible. It will be driven to a degree by the same databases, but as a part of those systems we will also be doing life cycle cost analysis and other segments as far as pavements and bridges go so we can start to have a better handle on individual project investment returns.

Mr. CARR. I guess the thrust of my question is we don't need to have the entire highway system of America at 100 percent maintenance at all times which is what the needs analysis gets.

Mr. CARLSON. I think you might want to discuss that but generally we have two criteria. One of them is what it takes to maintain the existing condition or conditions for some base year and then another one is what would provide an improvement. When we first started doing needs analysis, we did report what it would take to bring all systems up to 100 percent maintenance or improvement based on traffic. The number is so high it is not realistic, and we try to deal in realistic things, so we quit reporting it in that fashion.

Mr. CARR. I understand, but I mean to draw an analogy and that is perhaps more understandable to the nine people in the country who will read this report. The point is that, if I use as a baseline the day I bought my motor vehicle, at any one point in time I am behind my needs curve to have that vehicle exactly the way it was the day I picked it up. I mean, I don't know who of us maintain everything fully all the time in real time, and I think the needs analysis that the department has put out is probably not intended for that, but others in the community of transportation have taken that and used and perhaps misused it in an effort to tell people that things are just falling apart all around us and, gosh, ain't it awful.

Now, there are some awful aspects in things but it doesn't help us analyze what needs to be done and so I really hope that you are going to be pushing yourself more toward economic rates of return and a cost-benefit analysis that will hopefully correspond to some of the criteria that we are doing or that the department, department-wide, will, I think, be doing. And I want to applaud you for what you have done on the HPMS and HERS systems because it has great potential in that regard and hopefully will debunk some of these things that get going.

We do have serious transportation needs in this country. I am a supporter of trying to do more and I am glad we have a President that wants to do more, but on the other end of that is a bunch of hype by people who want to make everybody believe that we have a rotting infrastructure and it simply isn't the case.

I am encouraged about your HERS system and it having the potential of giving analytical tools to local officials and MPOs that previously might have had the expertise but they haven't had the ability and the tools to give their own rigorous analysis to even local people.

Before going on to the funding of ISTEA, I would like to give my colleagues the opportunity to ask some questions. Mr. Wolf?

I-66 HOV LANES

Mr. WOLF. Thank you, Mr. Chairman.

Mr. Carlson, welcome to the committee. I have a couple of general questions and some specific ones with regard to a couple of concerns.

One, I want to thank the department for sending someone out to take a look at the I-66 lanes that are going to open up on Tuesday. Is someone going out today?

Mr. CARLSON. It will either be today or tomorrow that they will actually do a review trip of that facility. Although, as you are aware, I was one of your constituents until the redistricting and I drive it every day so I have some knowledge.

Mr. WOLF. Well, one, I do appreciate you doing that, and as soon as the people come back, if they could call my office, and also John Milliken or Ray Pethtel down in Richmond.

Do you have any comments about this?

Mr. CARLSON. In all honesty, as the project developed it was difficult for me even working in this business to get a good feel of how it was going to operate, but in just the last few days they have done the striping to go along with the signing and other improvements. It is starting to become clear and I believe based on what I have seen in the last week or so that the thing is certainly a workable facility.

There are some problems I think that will have to be ironed out as we get into it, but I believe they have adequate signing. You can generally see at least two of the signs and while it would be nicer to have more turnouts, the right of way through that area is restrictive of doing a major shouldering job. I think they made as good a trade-off as they can.

We will have more information after we have some of our traffic people drive through it.

USE OF SHOULDER LANES

Mr. WOLF. Okay. I appreciate that. If you could let us know right away or even postpone the opening to make any necessary change. We are always concerned about somebody running out of gas or getting a flat tire or, a tourist who doesn't reach the exit. You know we had that accident on I–95 involving the shoulder lane.

Mr. CARLSON. I am familiar with the accident.

Mr. WOLF. Without taking the committee's time on this, too, if you would just let us know if there is any other facility like this in the country.

Mr. CARLSON. Yes, there are facilities that have been modified to provide more travel lanes and what I would have to say from our normal standards an inadequate shoulder, but we can provide that for the record.

Mr. WOLF. Good.

[The information follows:]

Information on this is very limited, but we do know that shoulders have been converted for use as thru lanes in several locations. Generally these have been interim measures, in use full time, to provide more capacity and relieve congestion. The design and individual characteristics are unique to each case. The locations where we are aware that this intermittent-type facility is being used or has been in use during peak periods are as follows:

- Houston, Texas - At several major freeway interchanges, this was used to provide additional capacity to the next adjacent interchanges. Lengths were about one mile, and they were removed after permanent upgrading was completed.

- Massachusetts - At least three roadways operate with intermittent shoulder lanes.

- New York - Two sections of an expressway operate in this manner.

- New Jersey - Various major arterials use shoulders for part time lanes.

- California - Santa Clara County has used this concept on at least two expressways.

- Virginia - In the Hampton Roads/Virginia Beach area on SR-44 this concept is in use, but the final signing (changeable-message) has not been completed. Therefore, an accurate evaluation cannot be made yet. It is apparently operating satisfactorily. The section of I-95 South of the Beltway, in Northern Virginia, was operated with intermittent shoulders for some time, but was later converted to full time lane without shoulders.

There may be other locations of which we are unaware. In the above examples, we are not aware of any safety analysis which was performed or of any major safety implications which may have resulted.

Because of the increased use of highway shoulders for general traffic and/or HOV lanes, FHWA will be undertaking a research study to document and evaluate the practice.

ELDERLY DRIVERS

Mr. WOLF. I introduced the Danforth bill, concerning safety for high risk drivers, primarily teenagers. There is also a segment with regard to the needs of elderly drivers. Have you looked at an applying IVHS to helping elderly people drive longer?

At the hearings last week, I was there for most of it, nobody brought up the problems of the elderly. As you know, many elderly people live in rural areas. If you can not drive, even where I live, if I could not drive, it would limit my ability to do anything. We are trying to get somebody involved in IVHS to help with the impact on the elderly.

Mr. JUDYCKI. We will do that and put a focus of attention on it. First of all, safety for the elderly is a concern and has been for a number of years. There are a number of technologies that are being brought to bear in the metropolitan area. For instance, crosswalk alert system is one area that has been researched to try to assist the elderly and others.

The IVHS program has not specifically pulled out an element to address the elderly, but I think through our research program, as well as in being sensitive to that safety issue, that we certainly should highlight it as part of both our rural and urban safety initiatives.

As you know, IVHS-America recently recognized and elevated the priority of safety as part of the IVHS program by setting aside an element of the program for rural safety. This is one component of rural safety that that committee should be very aware of and look at specifically.

One of the things that we might, John, if there is any research that is ongoing, you might want to comment on it.

Mr. CLEMENTS. Mr. Chairman, for the record, my name is John Clements, as Dean introduced me, Associate Administrator for Research and Development.

Congressman Wolf, as you may be aware, the National Academy of Sciences in 1988 had a special study on the elderly driver which Congress had a role in. I happened to be chairman of TRB at that time. That brought together some of the Nation's foremost researchers from all walks—the medical side, automotive manufacturers—who could make cars more user friendly.

They were producing cars, for example, that did not have tinted windshields as an option. Elderly drivers have trouble with nighttime vision and tinted windshields tend to be standard. That was discussed in the FHWA and it led to a high priority area for improving travel for the aging population.

At the Turner Fairbanks facility in McLean, Virginia, we have people in Human Factors and Safety looking into all kinds of reaction times for elderly drivers on signalization, controls, and signing. We have a retrofit activity going on viewing signs at different distances by people with impaired vision.

There are a number of heads-up display things from dual use technologies that might be available to aging drivers used by the automotive companies. This is quite an extensive program.

Mr. WOLF. Have you had anybody in IVHS research looking at that study?

Mr. **Carlson**. The National Highway Traffic Safety Agency is working with us on IVHS. They are doing human factors research. Whether they specifically have that in if you are looking at the facilities in the vehicle and how they are going to be able to be useful to the drivers, having that apply as well to older drivers is something we might mention to them.

Mr. **Wolf**. If you would, I would appreciate it, particularly to help people drive longer. Their automobile is very important to them.

Mr. **Clements**. Yes. We will do that.

IVHS–FOREIGN INTERESTS

Mr. **Wolf**. Let me express some concern on IVHS. There is a book which I brought today. I hope maybe somebody could read it to better understand the question. It is called "Friendly Spies." It is about a number of foreign intelligence agencies of friendly countries who are directing industrial intelligence against the U.S. It is very detailed in certain areas.

I am concerned about the IVHS grants projects that we are funding. Are there any that we are funding through American taxpayer money where foreign countries are involved? Specifically, too, the Japanese?

Mr. **Judycki**. Congressman, through IVHS-America, which has really turned out to be a global national program for us for IVHS, we are directing our attention and our program activities at the objective of the economic well-being of our own country and focusing attention on domestic industries.

The Europeans, as well as the Japanese, are very much involved. In fact, they are members of IVHS-America and are very much involved as part of our program development. At IVHS, in fact, you cannot deny it is a global program from our perspective as well as from theirs.

However, as we advance the IVHS dollars that you are appropriating, we are being very cautious to assure that the dollars are going to those businesses and industries that will help out our own country. In those cases where we have operational tests where we are considering or there are partnerships being put together where there is consideration for others than our own industries being involved, then the lead in those cases are usually our own industries.

Mr. **Wolf**. How do you keep that data from going to a foreign country?

Mr. **Judycki**. The data involved in the operational tests is proprietary data that stays with the private sector that is involved as a partnership. For instance, with Kraft Ed down in Florida where we are involved with General Motors, General Motors has a proprietary right to the information on the in-vehicle navigation devices that were used.

Mr. **Wolf**. But if a foreign company were involved in that test would they be aware of what that data showed?

Mr. **Judycki**. That would have to be negotiated out through the agreements. That may very well be an issue as we move toward the advanced project up in Chicago where we are going to have in-vehicle devices through a partnership with Motorola in 4,000 or 5,000 vehicles.

There has been some interest on the part of the Japanese in particular in participating in operational tests such as that. We have usually consulted with our own private sector in this country to gain their advice as to how they would like to pursue this.

Mr. Wolf. Without taking the committee's time, I would like you to come up and spend some time with me. I feel very, very strongly, almost to the point that I think I might offer an amendment, prohibiting any Federal funds from going to this. I don't know if the members of the committee will join me, but I will offer it. I would like you to read this book.

Mr. Judycki. I look forward to doing that.

Mr. Wolf. There are certain foreign intelligence agencies that are directed directly against American corporations to gain the upper hand.

The VCR was developed in the United States and now you cannot buy a VCR that is made in the United States. You cannot buy an American television set. Zenith was the last one and they just moved their assembly plant to Mexico.

If we loose this technology, MagLev, which the recommendations of this committee and the recommendations of the administration were to increase funding for MagLev, MagLev was developed basically here in the United States and is now going abroad. We are funneling out jobs out of this country.

I really want to make sure that no research that we fund, benefits foreign companies to the detriment of our own. Are there any Japanese companies that are now participating in any research that this Congress funded?

Mr. Carlson. No. The answer to that is we do not have any jointly funded research with any other government being funded out of the Federal Aid to the Highways Program. Dennis' point was that, since we help fund some of the administrative expenses of IVHS-America and that they are members, that there may be some overlap there as far as use of funds. But that is a very minor amount of what we spend in a year, less than $2 million this last year.

I would say, two things. One, it is our intention to have a system architecture for IVHS developed in this country. We are working very hard to do that. If we are successful at that, those Japanese and German organizations that have become members of IVHS will see that we are catching up to this game.

We intend to be a player in developing the standards for communication between vehicles and public infrastructure. They need to have a part in that if they are going to have a market in this country. We are certainly sympathetic to what you are attempting to do.

The other thing is, it seems to me that we need to take advantage of all the technology that some of the other countries may have developed, so we do try to maintain a relationship with them. In fact, we have a joint research agreement with Japan. I think we work with the Organization of Economic Development.

We work with the Permanent International Association of Road Congresses and the idea there is that we can get information from them about better technology. Also, we have in view attempting to sell some of our commercial interests on the prospects of working in other markets and contractors, consultants and so forth. We would like to make their path a little easier when they deal with other countries.

Mr. WOLF. I think it is important to do that. Sometimes we go in with our eyes somewhat closed. I hope after you read the book, you can come down and sit down with me. Sometimes foreign agencies go to trade shows, they pick up each brochure, take pictures, et cetera. Sometimes approach companies with the idea that they are thinking of purchasing something, take pictures, ask for the "hood to come up" and then say they have changed their mind because they are trying to find one special ingredient.

We in the United States have a good record of developing technology and not carrying it out. IVHS is very important. The Clinton administration, to its credit, is putting more emphasis on it. I am very sympathetic, but I don't want to find out that I have done anything to help the Japanese, the French, or the Germans.

You might just take a look at the involvement of all those countries. I don't blame those countries. They have the right to do what they want to do, but we are not doing a very good job. I don't want to see any dollar that this committee appropriates, from my point of view, gone.

So if you can keep us up to date. And, also I wanted to know about this with regard to universities. Do any of the universities that have funds from grants, work in conjunction with any foreign companies or countries?

Mr. CARLSON. Other than the kinds of trade visits we make to their countries I don't know. We will check that and advise you.

Mr. WOLF. On the grant application request, are all subcontractors listed as well as the lead contractor?

Mr. CARLSON. Yes.

Mr. WOLF. Have you looked at this issue from the view of the Freedom of Information Act? What many of these companies do is to hire Washington lawyers to make requests under the Freedom of Information Act in order to get the data. The taxpayer pays to get the data. The data goes to the law firm downtown and then it goes to the country that takes advantage of it.

Mr. CARLSON. I know that has been done. The great preponderance of our FOIA requests have not been in those areas. They tend to be more environmental activities and motor carrier activities. We don't get that much play on research activities, but I certainly will look into that and see if it is happening. I absolutely share your concern.

Mr. WOLF. I am sure you do. Just out of curiosity, what percentage of your Freedom of Information requests come from American companies versus foreign companies?

Mr. CARLSON. I can't answer, but we will look into that and furnish it for the record.

ACTIVATED TRUCK WARNING SIGNS

Mr. Wolf. On the activated truck warning signs that we put the language in on several years ago, that has slipped a good bit. Are we still on target for this?

Mr. Carlson. We are on target now. We hope to have them installed before the end of the summer. We have the complete agreement now with Maryland and Virginia to move out on this.

Mr. Wolf. I am very sensitive after sitting through Mr. Mead's presentation, you will agree that is a very good demonstration project.

Mr. Carlson. Yes, it is.

Mr. Wolf. That information will be distributed around the country.

GUARD RAILS

Mr. Carlson. In line with that, we have developed various guardrail techniques. We have States that have 10-foot-high guardrails that are extremely stout to avoid the possibility of any vehicle going over that railing, even an 18-wheeler at 80,000 pounds.

We have not had anything to tell a driver that this is an unsafe situation and is in trouble. So we try to protect them with guardrails. It would be cheaper if we could make that system work.

Mr. Wolf. I would like to go out when that opens to see it, so please keep me apprised.

Mr. Carlson. We will do that.

Mr. Wolf. I will submit the questions on Turner Fairbanks for the record.

TURNER FAIRBANKS RENOVATION

You have stated in your budget justifications that the Turner Fairbanks facility is key to helping FHWA carry forward its expanded R&D efforts, but that the building is in need of major repairs.

Basically, what are the current conditions at the Turner Fairbanks building?

[The information follows:]

The Turner Fairbank Highway Research Center includes three major buildings and a number of other testing facilities. The buildings include the Fairbank Building, the Annex and the Turner Building.

The Fairbank building was constructed in 1942. Although there have been renovations to the building over the years, there are still serious deficiencies in the building's systems. The heating and cooling systems are old, do not provide uniform temperatures within the building, and are very poor from an energy conservation standpoint. Much of the plumbing system is 50 years old and its efficiency has been seriously reduced due to corrosion. Since each laboratory and office area does not have its own electrical system it is very difficult and time consuming to locate and repair power failures.

A needs and asbestos survey, code and energy analysis and preliminary plans for renovation of the Fairbank Building were completed in 1992. The final report identified numerous code violations in the electrical, heating and plumbing systems and violations of the fire code with respect to building egress. Access to the building and rest rooms does not meet the requirements of the Americans with Disabilities Act. Asbestos was also found in a number of areas on all floors of the building. The energy analysis indicated that substantial energy savings could be otained by replacing the existing windows, adding insulation in the attic and exterior walls, installing a new heating and air conditioning system and replacing the existing lighting fixtures.

The total estimated cost, based on a detailed cost estimate developed in 1992, is $6 million. Due to budget restrictions the construction work has been divided into three stages. Preparation of construction plans for Stages 1 and 2 is currently underway and will be completed by July, 1993. The Stage 1 construction contract will be awarded before the end of FY1993. The Stage 2 construction contract is planned for early FY1994. Stage 3 is planned for FY1995.

The Annex was also constructed in 1942 in conjunction with the Fairbank Building. The building is of similar construction as th Fairbank Building, but considerably smaller. It houses several laboratories and the report center. Although a detailed needs survey has not been conducted, it is anticipated that problems similar to those found in the Fairbank Building exist in the Annex.

The Turner Building was constructed in 1983 and houses several major laboratories including structures and hydraulics and offic space. This facility requires only routine maintenance with mino upgrading (ie replacement of lighting fixtures) for energy conservation.

Mr. Wolf. Are there remaining handicapped access, occupational and health safety issues, or energy conservation measures that need to be addressed?

[The information follows:]

Yes there are additional handicap access, health and safety issues and conservation measures that need to be addressed. The Stage 1 construction (Funded with $1.94 million authorized in FY 1993) will include new hearing, ventilating and air conditioning equipment, asbestos removal or containment, sprinkler system mains, restrooms to comply with the Americans with Disabilities Act and renovation of six laboratories. This contract will be awarded in FY 1993. Stage 2 includes renovation of the elevator to provide handicap access to the second floor. Also as each office area and laboratory in Stages 2 and 3 is renovated code violations will be corrected, the sprinkler system will be extended into those areas, new lighting and heating ducts installed and exterior walls insulated. The replacement windows and attic insulation and furring are included in the Stage 3 construction.

Mr. Wolf. What are your estimates of the total funds required to address these problems?

[The information follows:]

The following are the estimated funds needed to address the the remaining handicap access, safety and health issues and energy conservation measures:

Item	*Estimated cost*
Elevator	$139,000
Heating and ventilating	464,000
Lighting	57,000
Insulation	167,000
Window replacement	485,000
Energy management system[1]	200,000

[1] Includes installation in the Turner Building and Annex.

Mr. Wolf. What kind of dent will the fiscal year 1994 request of $950,000 make in these needed renovations?

[The information follows:]

The 950,000 will be used for the Stage 2 construction. This contract will include renovation of the Bituminous Mixtures and Pavement Binders Laboratories and the reconstruction of the elevator to provide handicap access to the second floor. The following are the estimated costs:

Item	*Estimated cost*
Elevator	$139,000
Heating and ventilating	217,000
Lighting	14,000
Insulation (exterior walls)	15,000
Total	385,000

The balance of the funds will be used for renovating the two laboratories including new casework partitions, new ceiling tiles, etc.

Mr. Wolf. What additional funds are necessary to mitigate asbestos hazard?

[The information follows:]

None. Asbestos removal and containment is included in the Stage 1 construction contract that will be awarded in FY 1993. The estimated cost is $341,000.

Mr. Wolf. What is the total amount of funds needed to rectify the infrastructure at Turner Fairbanks and what is the total amount of funds that you have received to date?

[The information follows:]

The total estimated cost to renovate the Fairbanks building is $6 million. An additional $2 million is estimated to be needed for renovation of the Annex Building. This building was also constructed in 1942 in conjunction with the Fairbanks Building.

Since FY 1983 we have received approximately $100,000 annually for alternations and repairs to the facilities at the Turner Fairbanks Highway Research Center. These funds have been used for improvements to the mechanical equipment, replacement lighting and repairs to the buildings' systems.

The FY 1993 appropriation authorized $1.94 million for renovation of the Fairbank Building. These funds will be used for the Stage 1 construction. A contract for this work will be awarded this fiscal year.

RADAR DETECTORS

Mr. WOLF. Now, radar detectors on commercial trucks, what are your feelings about them?

Mr. CARLSON. With regard to safety, all I can tell you is the status of where we are. We received many thousand comments from our notice of proposal to ban radar detectors in commercial vehicles. They were on both sides of the issue obviously. There were some manufacturers that seemed to have a form letter, a large percentage were those.

There were also people on the other side of the issue saying they definitely should be banned because it is an attempt to get around the law and drive at a higher speed and, therefore, it is unsafe. We do know that higher speeds create a more difficult fatality situation.

Mr. WOLF. Have you looked at it with regard to trucks exclusively?

Mr. CARLSON. That was the proposed result we had in the Federal Register. We are analyzing the final results. Certainly this administration will take a position on it, but it has not yet to my knowledge.

Mr. WOLF. So the rulemaking would take what effect? You are moving toward actually issuing a regulation or would it be better to have that in law and would there be a fine with it? How would you work that? The Secretary was very sympathetic with it when he was here.

Mr. EICHER. Well, Congressman Wolf, in our regulatory process, the next step would be a final rule if the decision is made to proceed. As Mr. Carlson mentioned, we got 26,000 comments.

Mr. WOLF. How many for and how many against?

Mr. EICHER. 6,400 responders supported the ban and 19,700 opposed it. Now, you have to add some caveats to that, Congressman Wolf. On the "against" side, a little over 19,000 of those were really signatures to petitions that must have been orchestrated probably by the manufacturers. On the "pro" side, there is about 5,100 to 5,200 letters that were form letters.

Mr. WOLF. What was the reaction in most of the states, the highway safety people in the different states?

Mr. EICHER. The safety interests and the highway safety interest generally support the ban.

Mr. WOLF. How about the State departments?

Mr. EICHER. We did not hear from any states at all. One of the arguments that can be advanced is that it could be a States' right issue. As you well know, Congressman Wolf, the District of Columbia and Virginia prohibit the use in all vehicles.

Mr. WOLF. I heard a few other states did but one state repealed them.

Mr. Eicher. Connecticut did prohibit the use of radar detectors in commercial vehicles. I heard earlier this week that they may have rescinded that.

Mr. Wolf. Do you have any data as to whether or not that helps, any safety data that has been collected?

Mr. Eicher. No. The problem is the inability to isolate that one factor from the reams and reams of data that we do analyze. There is just no good data to substantiate or refute a good quantitative argument that makes sense.

Mr. Wolf. If you have any information from the Federal highways on that issue, I would appreciate it if you could get it to me.

[The information follows:]

A research literature survey focusing on the relationship between radar detectors, speeding, and accidents was conducted as part of the Federal Highway Administration's preliminary regulatory evaluation for the Notice of Proposed Rulemaking to ban radar detectors. The sources do not, in themselves, substantiate a direct link between radar detector use and commercial motor vehicle accidents, not do they establish a clear relationship between the radar detector bans already in effect (in Connecticut, the District of Columbia, New York, and Virginia) and enhanced commercial motor vehicle safety.

14TH STREET BRIDGE

Mr. Wolf. Now, the last item, this is a request. This is not in my congressional district, I will say for the record. There is a terrific backup on the 14th Street Bridge.

Years ago, the Federal Highway Administration was very helpful. We put in language asking that there be an additional lane on the Teddy Roosevelt Bridge. We were criticized for it. People said it would not work. Your people were very supportive. It is very, very successful. There is the same potential on the 14th Street Bridge, which I would again say is not even close to my congressional district.

I wondered if you could add an additional lane on the 14th Street Bridge in-bound so that the traffic coming up from Alexandria, coming up from National Airport, could continue to have free flow. That little house on the bridge is not used. It has been padlocked for years.

This is not a drawbridge. Also, a reversible lane would help eliminate the dangerous turn where cars are coming under the George Washington Parkway and merging.

It is very unsafe, even when there is no traffic, because you get people coming up typically not from the region, including trucks barreling up from Shirley Highway. There have been a number of accidents there.

Would you look at the possibility? And of course we would have to work with the District of Columbia to add an additional lane on the 14th Street Bridge which would eliminate the bottleneck of these cars coming from Alexandria. Cars could feed from directly under the bridge, and we would still have the same number of lanes coming over 14th Street.

Mr. Carlson. You need one additional lane in-bound.

Mr. Wolf. Yes.

Mr. Carlson. It would take a structural revision. We can provide you a rough estimate of that cost for the record of what it would take to put an additional lane on the 14th Street Bridge. It is not an easy issue to handle because widening any bridge over the Potomac River in the capital area is not an easy environmental issue.

Mr. Wolf. I know that. We ran in to that when we added a lane on the Teddy Roosevelt Bridge. It has made such a terrific difference. From an environmental point of view, it stopped the backup coming from Route 50. Once we finish the G.W. Parkway improvements, which again is not my district, that would pretty much eliminate that backup.

From the environmental point of view, energy, having that on the Parkway, if you could look at this cost, how difficult it would be and also whether or not this makes sense from a professional point of view. I respect your opinion and appreciated that your group was supportive and not with all the other nay-sayers, on the T.R. Bridge.

If we could do the same thing, thinking about the hours and energy saved and, more important, the lives that could be saved. If you could get back to me on that, I would appreciate it. Thank you.

Mr. Carr. I am constrained to comment. I think all of us have been in those particular situations that Mr. Wolf is talking about. Just as a motorist around the Washington, D.C. area, I would endorse the suggestions the gentlemen from Northern Virginia has.

I wish that you all drove around my district so I could talk to you about specific problems. Mr. Wolf has this tremendous advantage of being able to talk knowledgeably about individual, specific situations that you all are presonally familiar with. It would take me a day or two to expand on the problems that are in my district because you don't know them.

It is not meant in any way to belittle the talking about specifics. We need to do that. I just envy the gentleman from Virginia having the opportunity to talk to the top people at that level of specificity.

[Discussion off the record.]

Mr. Carr. We support the gentleman. Sometimes we get the impression from some of the local folks that it is such a gosh-awful burden to have government in its midst. This points out one opportunity where it is a distinct advantage.

Mr. Wolf. If the gentlemen would yield, I think it is a plus. I have been an advocate of this. We are pleased to have the government. One of the reasons is a lot of the good government employees who live in our district who have been extremely helpful.

I will say with a little levity, but a lot of seriousness, I was the one to support transferring National Airport to a regional authority. Most Members were against it. Now both of those airports are being improved in a positive way.

I think the fact that we have been able to take on some of these things has been good for the country.

Mr. Carr. The gentleman from Pennsylvania, Mr. Foglietta.

I-95 CORRIDOR

Mr. Foglietta. Thank you, Mr. Chairman.

I may be jumping ahead by asking this, but with your permission, sir, as you know, the FHWA, Penn-DOT, and other State transportation officials are undertaking the major reconstruction of

I-95 from Delaware to New Jersey. The project is being planned to establish it as a national model for future major reconstruction efforts.

This reconstruction is expected to take between 10 and 12 years, thus presenting a very busy corridor of interstate system with serious congestion problems. In the past, other states have made investments in transit projects to relieve resulting congestion such as Park and Ride lots to give commuters other options.

I understand Interstate funds are not flexible, but are you open to using Interstate funding to expand transit options during these construction periods to alleviate the problems?

Mr. CARLSON. We are open to the extent that we are not constrained by the law on the use of those funds. We are very excited about that corridor. I think Mr. Judycki could probably talk a little bit more about what we are actually proposing for the corridor.

The interstate reconstruction funds, the interstate categories were changed, so basically we only have right now an interstate completion category and an interstate 3R category. Twenty percent of the interstate 3R money can be transferred out of that system without any approval of the administrator or Secretary.

That 20 percent then can be put into the service transportation program funds and can be spent however the states like to do it. If Pennsylvania's interstate statewide is in excellent condition, then with the request, the rest of that money can be transferred off the interstate money and used for whatever use the State chooses. I don't think that is the case in all situations, based on my discussions with my past boss.

Mr. FOGLIETTA. Thank you. Would you care to comment?

Mr. JUDYCKI. I would say that the opportunity in that corridor is tremendous. Last month, based upon the language of ISTEA that sets for forth program priority corridors, we announced the establishment of the I-95 northeast corridor as one of the priority corridors.

One of the things that your particular corridor has going for it is the formation of the coalition, the northeast coalition which is looking for opportunity to advance traveler information systems, integrated traffic management systems throughout that corridor. There is a dedication of some $10 or $10.5 million to get that initiative under way.

We would like to work with not only the IVHS component of advancing technology in the corridor and applying it in an environment where a lot of jurisdictions are involved, a real service to the public, but also work with the individual States in addressing the types of issues that you are raising right now.

USE OF FLEXIBLE FUNDING

Mr. FOGLIETTA. In the testimony that we heard earlier, the GAO stated that they found only 3 percent of flexible highway funds were being used to finance transit projects.

Can you tell us what steps FHWA has taken to encourage State transportation departments to use these funds and can you explain the barriers that are keeping the flexible funds from being fully utilized?

Mr. CARLSON. Our proposed planning regulations will ask for funding for utility and will hopefully give the local authorities a chance to insert into the transportation program things that are very warranted. There are a couple of things that work as barriers.

One is, as Mr. Meed said, many states have a constitutional protection of money that comes out of their highway trust funds so they were a little short of money to match some of the things that they might have.

The other thing is ISTEA is a complex bill and the startup for as many things that we are dealing with has been pretty tricky to do. It involves an exchange of money between modes and exchange of ways we monitor activities, et cetera. I think that we will probably see in the future an increase in the monies that go into transit. That is my projection.

Mr. **Foglietta**. What positive steps are being taken to remove the problems or barriers that now exist?

Mr. **Carlson**. I guess the answer would be in a non-attainment area, the planning process will decide whether or not money should be spent on different types of facilities. We are working very hard to get those approved and out. Also, the Clean Air Act conformity regulations will have an impact in that area. We hope to have that out soon.

Mr. **Foglietta**. I thank you, sir.

Thank you, Mr. Chairman.

Mr. **Carr**. The gentlemen from Texas, Mr. Coleman.

INVESTMENT CRITERIA

Mr. **Coleman**. Thank you, Mr. Chairman. I just wanted to make a comment, if I might, Mr. Chairman, and get it on the record. One of my concerns about the toxic criteria that were discussed a couple of hours ago by the Chair and witnesses concerned me a little bit because, as I would understand it, the State highway departments would be kind of in the driver's seat, so to speak, in terms of determining that criteria.

And certainly within states, particularly large states, there certainly has to be a priority given, based not necessarily on the strict criteria which you may describe or which we might look at, but rather within that State. It is probably true that politics will play some role in it.

When I use the term "politics," I use that term to include legitimate rationales, much of which is driven by population density. That is politics. You have more representatives from Dallas and Houston, for example, than you have from Brownsville, Texas.

I submit that sometimes this criteria would be certainly subject to internal State decision-making processes as well. I would say, also, that in providing data, some demo projects under consideration may be represented by various groups that have more ability to do the number crunching that would be required to be able to make the case.

I know, for instance, where grants have been sought by some institutions, while certainly as good an idea or certainly as great a need could be demonstrated, but the paperwork did not look as good as it does from others with whom they are competing because they may not have had the resources to hire outside expertise in submitting the grant proposals.

I would just say that I think there is a caveat, at least from my standpoint, with respect to this criteria issue that I think needs to be taken into account. I would say I would be willing to discuss that at length when we begin to make those efforts.

DRUG INTERDICTION

Mr. COLEMAN. I was interested very much in the agency's drug interdiction assistance program. I was wondering if you might be able to give us some description of the scope of the work that you are doing currently in that area and interested in what other agency you may be interfacing with and whether or not you are getting cooperation from the States.

Mr. CARLSON. We have a pilot under way in four States looking at roadside checking. The rest of our program is done by the owners of the motor vehicle organizations. So there is no cooperation, necessarily, from the States on that.

We are finding about 3.8 percent of the drivers are showing positive for prohibited drugs and about two-tenths of a percent for alcohol. So we think that we do have a serious issue. We have lawsuits. We have been sued for that program. The judge did not allow an injunction, so it will go to hearing very shortly. We hope that we will be successful in being able to continue that process.

Dr. Eicher may have some other comments.

Mr. COLEMAN. Your representation in those cases, those are civil lawsuits that have been filed against the agency?

Mr. CARLSON. Yes.

Mr. COLEMAN. Do you have in-house counsel to deal with that?

Mr. CARLSON. Yes.

Mr. COLEMAN. Has the Attorney General provided you with any assistance or has any been requested? I am just curious if that is a role the Attorney General would be willing to deal with.

Mr. CARLSON. We have not requested it. We have been dealing with our in-house counsel.

Mr. COLEMAN. Yes, sir.

Mr. EICHER. Congressman Coleman, if I may amplify a couple of things that Mr. Carlson said. First of all, the lawsuit, it was the Owner-Operators Independent Drivers Association that sued us. Actually, they sought a restraining order to prevent the collection of drug and alcohol information at these four states.

The court initially denied the request for a restraining order, but it has proceeded through the process and oral arguments are going to be advanced next week.

Mr. COLEMAN. Let me also comment, my briefing from the Drug Enforcement Agency—and they are very interested in the amount of drugs that have been caught as a result of the task force efforts. They in fact feel that the cooperation has been excellent. That was their comment in testimony that I heard. Yes, sir.

Mr. EICHER. If I may, Congressman Coleman, a major part of our Drug Interdiction Assistance Program is really to provide training and assistance to the states. We have a staff of four people who are pretty well dedicated to drug interdiction training.

Over the last three years, we provided training to over 2,000 State enforcement personnel. Now, as a direct result of this training, and you alluded, Congressman Coleman, to some numbers on interdiction, as a direct result of this training, there have been 100 major drug seizures.

From those drug seizures, they have procured 88,000 pounds of marijuana, 22,000 pounds of cocaine and many other drugs, over 300,000 in U.S. currency. So we know it is a very successful program. There is a lot of very close interaction with the Drug Enforcement Administration and participation with them on their major nationwide information system in El Paso, Texas.

Mr. COLEMAN. What is your cost estimate? Is it just the four personnel and travel costs?

Mr. EICHER. In addition to their four personnel, salary costs and travel and the like, there has also been a Motor Carrier Safety Assistance Fund that has gone to the states over the last three years. In the most recent fiscal year, 1993, that we are in now, there was $650,000 that was earmarked for drug interdiction.

Now, $500,000 of that $650,000 was earmarked to the State of New Jersey. The other $150,000 is being given out to other states who have requested grants to do drug interdiction. In 1992—and if you give me a second and let me just count these states—17 states in fiscal year 1992 were participating in the Drug Interdiction Assistance Program including your own State, the State of Texas.

Mr. COLEMAN. I am curious about whether or not for this year, for example, is that number going up or are we able to maintain it and continue the program or can we expand it to all the states that do want to participate.

Mr. EICHER. The funding is a little lean for this part of the program in 1993.

Mr. COLEMAN. It came from which committee, was it from this transportation committee? In other words, you did not get funding from another source for that?

Mr. EICHER. No, sir. This is part of the $65 million that was appropriated for the Motor Carrier Assistance Program in 1993. $650,000 of that was earmarked in the Appropriations Act for drug interdiction.

Mr. COLEMAN. Is there a request for this year, a number that we know about?

Mr. EICHER. It would be at the same level.

Mr. COLEMAN. I guess then my question is: Can we expand the program to other states? Will we have the funds to do that?

Mr. EICHER. We will if there is an earmarking for one State, yes, sir.

Mr. COLEMAN. If there is not earmarking for one State?

Mr. EICHER. Correct.

Mr. COLEMAN. We were addressing the question of demo in some cases and understanding that that is reality. If we want States to fully participate in it, I can assure you that those other agencies and government employees with responsibilities will feel strongly about the drug laws and the cooperation from you. They would like very much to see it expanded. I think we should probably do our best to accommodate that. This seems to be funding spent very well and wisely.

Mr. CARLSON. I think the cooperation has been exemplary. In my home State, a van-load of marijuana was stopped as a result of this drug interdiction. Patrolmen in that State, after processing, found what his delivery point was. We had the cooperation of the Military Air Transport Service. They followed that van on a C-130 and took it to an eastern State which was his point of destination.

When he made his delivery, the Federal Drug Enforcement people were there and picked up the people it was being delivered to. I think that is the example of the cooperation we are getting in this program.

BORDER STUDY ON DRUG ENFORCEMENT

Mr. COLEMAN. I think that is something we need to attend to and would be interested in having. Any others from the drug enforcement community can command testimony about this fund for the edification of this committee, it might not be a bad idea. I think they will support what the administration has been doing.

I asked this Committee and the Congress last year to—and they acquiesced in it and supported it in asking that a study be conducted in the report language from last year concerning the infrastructure needs along the United States-Canadian and Mexican borders. I wondered if you might be able to bring us up to date on any activities that have been ongoing with respect to that study.

Mr. CARLSON. He will. Madeleine, are you going to discuss that?

Ms. BLOOM. Yes. Mr. Congressman, we are pleased to report that the study is well under way and is due to the Congress in September, as you are well aware. We are working in both on the eastern and the western portions of the United States looking at existing and projected trade routes and looking at it from a standpoint of multi-modal transportation corridors. We are also looking at involving a number of individuals, groups and States. We are working very actively in Texas, California, and elsewhere to keep the communities involved.

Mr. COLEMAN. You said multi-model. Are you including rail and other forms of transportation?

Ms. BLOOM. We have combined the border study with a study on international trade corridors that was included in the ISTEA because they were so similar. We will be providing a unified report to the Congress in September.

Mr. COLEMAN. Okay. Are you still anticipating being able to complete that in September?

Ms. BLOOM. Yes, we are.

HIGHWAY-RELATED SAFETY GRANTS—TRAFFIC SIGNS

Mr. COLEMAN. Thank you very much.

With respect to the highway-related safety grant program, I am interested in activities directed to areas where populations are not necessarily even in a majority sometimes conversant in the English language. It may not be popular in English. I am one of those who believes very strongly that highway safety should take into account that many urban populations have drivers operating vehicles that do not understand traffic signs that we often times take for granted. We understand in English.

Do you have any comments with respect to those kinds of international traffic signs as an issue.

Mr. **Judycki**. The Safety Grant Program, the 402 program that you are discussing, has been very responsive to bilingual situations, not just in signing but also in developing manuals, training, and promotion material that is directed towards improving safety. It is more than just the English language.

In addition to that, one of the things that obviously we are faced with right now as part of the metrification issue is looking at the possibility of providing for metric signing in this country. That is an issue that we have been discussing internally within the Federal Highway Administration and will be advancing over the next few months.

TRAFFIC SIGNS

Mr. **Coleman**. I guess I am concentrating more on the issue of kinds of signs the international signs.

Mr. **Judycki**. The symbol signs.

Mr. **Foglietta**. Will the gentleman yield?

Mr. **Coleman**. Yes.

Mr. **Foglietta**. I would like to comment on this also. I think you used the word, "bilingual," and I think when especially when we are talking about a multi- cultural environment like the City of Philadelphia or New York we are not talking bilingual but multilingual.

Now, the reason I asked the gentleman to yield is I had that kind of situation occur in my home State of Pennsylvania. PENNDOT came to see me about something and I said I use the State highway system quite often. And I noticed that as you go along the highway every so often there is a turn off or rest stop area, but there are no warning signs to give notice that you can turn off. So you have to wait until you are about upon it and all of a sudden jam on your brakes and pull over to the right and endanger your safety and the other drivers on the road when you do that.

I suggested that a sign be made one mile before warning people that there would be that kind of turn off that they can approach it safely if they would like to do so.

They thought it was a good idea and they called me back and said they were going to prepare these signs. They sent me a copy of the sign and the sign was printed in English saying "one mile ahead there will be a comfort stop to your right." I then contacted them back and said, you know, I have traveled throughout the world and I have seen these signs and I don't know why we can't use the symbol that they use all over the world which is a line like this and the other, one kilometer or one mile ahead.

And they said there is a regulation in Pennsylvania which prevents them from doing so. I think it is a national regulation that any kind of new sign has been tried for a year and put under a test period, et cetera, et cetera, et cetera, and then have to be approved after that particular period of time.

I agree with my colleague that you know we have in this country people coming from all over the world, not only living in our cities, but tourists. I don't see why we can't start to adopt the international sign system which is so very simple and easily legible by every person throughout the world. And thank you for yielding.

Mr. Judycki. We do administer the manual on uniform traffic control devices which does have device standards. It also includes signs, signals, and pavement markings.

We do have an objective to harmonize the symbol signs that you are talking about, in fact, with the Europeans. We are working with them on symbol signs that they use much more often in Europe than we have in this country, and we have about a dozen symbol signs right now that are a matter of national standard to communicate much more effectively to our very diverse population.

We are very receptive to changing those standards on the national basis. As you say, after we take a look at and research and assure ourselves that the symbol sign does, in fact, communicate to the public what we would like to communicate, that under an experimentation process we can allow that evaluation of that nonstandard device for eventual inclusion into the MUTCD.

I think that symbol signs can do a much better job in communicating in many cases. That is what we found with those that are in the manual at this time.

Mr. Foglietta. No way to expedite the approval and use?

Mr. Judycki. The process doesn't take a couple of years. The experimentation and evaluation can certainly take less than a year on something that is what you might characterize as obviously a better sign. If it is something that we think should be considered as a national standard, we go through the rule-making process, which obviously is a deliberate process to change the national standard. That usually takes a number of months to accomplish. But I think that in those cases where we are going to suggest a national application of a new standard sign, that a deliberate process, expedited but a deliberate process——

Mr. Coleman. Let me ask you a question. Ten or 20 years ago, I don't remember exactly when, but I remember in Austin, Texas, at the Deaf School, there was a sign that had been approved indicating that you were in a deaf school area or an area—in which your horn wasn't going to notify anybody of impending danger. And it seems to me that I recall there was a decision made.

Was that the decision made by this agency here in Washington or was that a State?

Mr. Carlson. In that case it would probably be made at our local level using the standards that we established.

Mr. Coleman. When you said the local level——

Mr. Carlson. Our division office working with the State highway agency, if it is a Federal aid route that we would have any control or interest in. There are a lot of routes out there that are city streets in Austin that we wouldn't have any authority over.

Mr. Coleman. Did you do that with Gallaudet here in Washington, D.C., I suppose?

Mr. Carlson. I can't answer that.

Mr. Coleman. I was curious about the process.

Mr. Carlson. I want to make one point on this and I was trying to search my mind as an example of what we sometimes get into. The sign that has the merging lines on it to show where lanes merge, I think has been pretty well accepted. The "do not enter" sign used to use English language "do not enter". We found out it is much easier to have people see that shield with the red line across it. Those are very successful and working.

But we still get some people who, when they see the slick pavement sign, think it is a drunk driver sign. So making sure that people understand the meaning of what we are trying to tell them is important before you move into these signs.

I think we would like to work very strongly towards harmonizing with the European standard of signing. And having been in Japan in December and seen their legends, I am not sure we can harmonize with them. Their language is so different that it is pretty scary to think about. In other words, symbols in Japan ought to mean the same thing. We are working along that line so some time I would hope we would have a worldwide symbol language for drivers.

GLOBAL TECHNOLOGY

Mr. COLEMAN. Last year your agency reported international agencies related to global technology moving into that area. What can you report about your plans for this year with respect to that and maybe let us know of any costs associated with those activities.

Mr. CARLSON. Well, as I mentioned a little bit earlier, we are still taking part in our associations to exchange research and development information across the world. Permanent International Association of Road Congresses, International Road Federation, and OECD are the three organizations we belong to.

We have been developing a technique that we call scanning. We first do an analysis to see if there are other countries that have technology we are interested in. If there is something we think we can find out, we put together a group of State highway people and our people and some technical people and some academic people and go over to that country and try to develop background on what they are doing that might be something better for us.

The two pavement tours were our first efforts in that area. We have also done one on a technical procedure for stabilizing slopes called "soil nailing" that has some promise. It has been used slightly in this country, but it is used fairly extensively in France. And one that we are planning right now and, in fact, putting lists together of the people we want to send might be of interest to this committee. It is on contract administration techniques that are used in Europe, design, build, warrant, other techniques for getting the best administration of contracts for our dollars that we spend.

We are interested in anything that has to do with continuous quality improvement. Information that we can pick up from other countries on how they have successfully managed that is what we are going to be looking at.

You asked about the expense. We used part of our regular travel budget, but we also have a small line item in our budget proposal that would allow us to continue to work with other countries when they come to visit us and when we go to visit them to see if we can't pick up as much of their good technology as we can.

Mr. COLEMAN. I would only ask you to keep us posted on that with respect to that. I very much favor that effort. I think that is smart and I don't share some of the concerns by some of my colleagues with respect to the sharing of information. I recognize where the Ranking Member comes from on this issue. I hope it is not directed generally at least on the whole concept of sharing of information.

I think without any question what the United States is able to glean from other businesses, as well as nations at interest is important and I fully understand the reasons and rationale of the countries who do the same.

Thank you very much. Yes, sir?

Mr. CLEMENTS. I might, Representative Coleman, add briefly to what Dean has just said. In addition to the cooperative agreements with Japan that have already been mentioned, we have one with Saudi Arabia that has been in place for some time and one with Sweden. We are doing cooperative arrangements with France on technologies that they are a little more advanced on than we are. And also, of course, we have the Pan America Highway Institute which operates throughout South America that goes out through South America and Central America with a technology exchange.

I think we all believe that research is a two-way street. There are some abilities that we have now given to us by the ISTEA involving cooperative agreements with industry and others similar to Japan, Inc., for example, which sends teams around the world. We have that capability in the United States now to have new cooperative agreements with U.S. firms.

And I think we would agree that things are moving so quickly these days that the way to take the field is really to keep ahead of others. There is really no way you can bottle this process up. I think our objective, really, is to move out just as quickly as possible.

And using Denny's and Dean's reference to IVHS, I think we have stolen the march on the rest of the world because of the support that Congress and industry has given, and our aim is to keep ahead. The way you keep ahead is to have cooperative agreements with your partners and establish architecture and standards that are now adopted by the whole world and give us export opportunties for our companies.

Mr. COLEMAN. I think you are highlighting export opportunities are key and I think that is absolutely critical and thank you very much for your testimony. Thank you, Mr. Chairman.

MINIMUM ALLOCATION PROGRAM

Mr. CARR. The gentleman from North Carolina, Mr. Price.

Mr. PRICE. Thank you, Mr. Chairman. Let me begin this morning by complimenting the agency for exempting the minimum allocation program from the obligation limitation. This program, as you know, guarantees a minimum of fairness to donor States. We have found it totally unacceptable in the past when the administration has included this program under the obligation limitation. We have made some real progress in that regard.

Now, I wonder, is the new administration proposing any budgetary changes in the minimum allocation program? I understand, for example, there has been some discussion on perhaps the limit on what could be obligated in the first quarter. Is that true? Are there other discussions under way that we should know about?

Mr. CARLSON. Well, our budget proposes that there be a limit of 15 percent during the first quarter which was the same thing that we worked with this fiscal year.

Mr. PRICE. What is the reason for that proposal?

Mr. CARLSON. Because if we don't have some sort of a limitation, the outlays come in higher and when it is scored by the Office of Management and Budget, it makes the deficit number for the year look considerably higher and so it is basically an attempt to control the rate of outlay.

Mr. PRICE. Any other budgetary changes under discussion that you know of?

Mr. CARLSON. I think one of the things that we would like to do is include demo projects in that 15 percent at least for the first part of the year because that is one part of the budget that is fairly large and doesn't have any outlay control. The demos and minimum allocation are outside of budget control. So the demo projects would be included in that 15 percent, but the rest of the year there would be no cap.

RECYCLED TIRES IN PAVEMENT

Mr. PRICE. Let's turn to the research portions of your budget proposal. I would first like to take up this question of the use of recycled tires in asphalt pavement. On pages 74 to 76 you discuss your research plan concerning the use of recycled rubber in asphalt. You say that in fiscal year 1993 a report on the performance, recyclability and, the environmental and health effects of this pavement will be given to Congress. Has this report been sent? And if not, when should we expect it?

Mr. CARLSON. I believe that there is a due date on that in June and we will meet that due date, hopefully. Our intention is still to meet it.

Mr. PRICE. Can you give us a preliminary characterization of this report? For example, to what extent is it mainly a review of prior research and what kind of research questions will it leave for future consideration?

Mr. CARLSON. There is unfortunately going to be quite a bit left for future research consideration because the time that we had available to look into the health aspects of using recycled asphalt with rubber content was short. It is kind of an epidemic—I can't say the word, I am sorry. The study of epidemics is something they do in the Centers for Disease Control and it takes quite a while.

So what we have done is attempt to look at the research that has been done in the past by others and consider what might be available in the future. In all honesty we have not really found, nor has EPA, significant health indications for crumb rubber asphalt. One of the other concerns certainly is durability and performance of the product and we have not been able to get any definitive answer on that.

Some States have reported some early failures of crumb rubber. Some Northern States have indicated that they don't feel like it is a very good product for northern climates. On the other hand, California, Arizona both say it works quite well. So I think that at the moment our feeling is that the research in phase one that is covered under Section 1038 is probably not going to be definitive enough to give us a reason to waiver the States from the program.

Mr. PRICE. You say that you are anticipating that additional research should be initiated to fill in the knowledge gaps. Sounds like those are likely to be substantial.

Mr. CARLSON. Yes, sir.

Mr. PRICE. You also say that additional environmental and health risks testing will be initiated to assist the Secretary of Transportation and the EPA administrator in determining whether to mandate a percentage of recycled rubber tires in Federal aid construction as outlined in Section 1038 of the ISTEA.

Mr. CARLSON. Not quite, sir. The law is written so if there is nothing in phase one research that would indicate that we shouldn't do this, then we will go ahead and ask the States to start in 1994 using 5 percent crumb rubber asphalt. We will start on needed health research at that time. That is the way the law is set up.

Mr. PRICE. But you are authorized to ask for a waiver if you think it is warranted?

Mr. CARLSON. Yes, on the health issue. We need to have the concurrence of EPA in order to do that.

Mr. PRICE. Well, has that cooperation from EPA been forthcoming? What kind of contribution do you anticipate them making to these studies?

Mr. CARLSON. The initial information that their research of the health aspects of this product and that of the Western Research Institute is that there is not any serious problem that we know of at this time we can't use that part of it as a position to waiver this product.

Mr. PRICE. Well, it seems to me extremely important that this research be reasonably complete. Its results analyzed before the use of this asphalt rubber is mandated. Do you agree?

Mr. CARLSON. Yes.

Mr. PRICE. Our North Carolina Department of Transportation has sent a letter to Secretary Pena that they believe emissions are increased by using asphalt rubber. It may be a health hazard. They are currently evaluating source emissions, worker exposure, roadway effluent exposure on a project in Rock Hill, North Carolina, which will utilize 13,000 tons of this rubber and where results won't be available until 1995.

Mr. CARLSON. Representative Price, we feel that from the way the legislation was written, we are to go ahead on this based on what information is available at this time. There are a couple of pretty serious questions out there. One of them is the recyclability and whether there are any health concerns during the recycling process and we don't really have good answers to that. There has been some recycling of crumb rubber asphalt done, I understand, in Canada, but there hasn't been any done in this country to any significant degree, I understand.

During the laying of crumb rubber asphalt in Arizona where it started and in California over the last 10 to 15 years, there really hasn't been any health problems detected. The way the legislation is written, even though I would feel more comfortable if we had additional health-related research, we really don't have authority under the legislation to delay implementation.

Mr. PRICE. But you think in principle it is important to have that research information in, particularly on the health effects of this?

Mr. CARLSON. I would like to; I will tell you why. You use about 20 pounds of crumb rubber in a ton of asphalt. Right now we have got an environmental problem with 20 pounds of tires. If in the future we have a problem, we will have a 2,000-pound problem. That is my concern and why I would like to have better data.

Mr. PRICE. Aren't there serious considerations of worker exposure? Doesn't this process require extraordinarily heating of materials much more than in current material?

Mr. CARLSON. I wouldn't say much more than in current paving, but it does require a higher level of heat on the material than in present asphalt.

Mr. CLEMENTS. I would like to add one comment about recycling. In the recycling process that is now going on, the control of heat is very critical in terms of toxic emissions. Obviously, the higher they heat the asphalt the more emissions come off, whether they are toxic or not. When you get into a recycling process, what they try to do is have the heat of the new material and the heat of the old material balance each other so they can keep the temperatures low but still the base material, the recycled material is higher. It is usually three or four times the temperature of the original mix.

I think the concern of the industry is that if we get a lot of recycling going on with crumb rubber at these heat values that the emissions from those could be quite severe. The recycling aspect of this needs considerable work.

LIFE CYCLE COSTS AND PAVEMENT RESEARCH

Mr. PRICE. I agree and I am glad to hear you confirm that, and all I can say is that I think it is foolhardy to move ahead with this kind of rigid requirement until we have good full information about the health effects and the environmental effects of what we are requiring.

Let me turn to another aspect of your research program. During the consideration of ISTEA there was great concern about changing the contracting process to make certain that bids are evaluated based on life cycle costs rather than the lowest up front bid. Now, in the end your agency was charged with studying this issue further and developing some recommendations.

I would like to ask you generally what you are doing in this area especially regarding a greater understanding of pavement longevity. Let me also at the same time ask you to clear up some puzzlement I have about the research budget and exactly what is contained in these various items concerning pavement.

Why don't you answer the question in general first though, and maybe that will take care of the more particular concerns.

Mr. CARLSON. Well, we are interested very much in life cycle costing and our pavement management systems will include an attempt to develop better data on life cycle costing. I believe there is $14 million a year in our research program. About six of that is to implement the results of the Strategic Highway Research Program, but about $8 million is to follow up on sections of pavement that have been either specifically put in place as a result of the Strategic Highway Research Program or selected for study with a lot of data to see what kind of a life cycle costing we are going to be able to achieve.

This also ties into the issue of international activities. One of the things that we found out is that many countries attempt to build a better base and then they replace the surface as necessary. This gets into the life cycle analysis when you have certain surfaces that you can take off and put back down. If you don't have to do the whole pavement, it is certainly a cheaper way to approach the life cycle costing.

We are doing research in this area as well.

Mr. PRICE. Let me just ask the more pointed question, because there are a couple of items here which pertain to this and maybe you can clarify what is included in each. You do have a substantial increase for the long-term pavement performance project which I understand does investigate pavement that is in place around the country.

Mr. CARLSON. Yes.

Mr. PRICE. An increase of $4 million, I think, on that line.

However, your general pavement research account which, as I understand, is the more basic research is actually being decreased. Now, I wonder what the reason for that is. I understand and maybe you can confirm this, that your original request to the Secretary for pavements research was considerably higher, like about $9.6 million, charged to what is in this budget a half-million-dollar reduction from FY93 levels. Can you clear all this up?

Mr. CARLSON. We just spent a substantial amount of money in the Strategic Highway Research Program doing basic materials research particularly for asphalt, and also for concrete pavement. While there are still obvious questions that could be researched, we would like to see, as we implement the SHRP findings regarding the character and quality of binder material in asphalt pavements, the best possible mix on the road while using the latest techniques for detecting alkaloid silicate aggregate reaction for concrete pavements.

We think we ought to look at the results from the pavement research that was done with the Strategic Highway Research Program before substantially increasing our program.

While we requested more money for pavement research, as well as a couple of other categories of research, if you look at our overall research program, we attempted to set priorities between IVHS and the other activities. These include local assistance programs and other activities that we finance in training from the NHI. We tried to put some comparison of need on those and that is the way the pavement came out in the final analysis.

Mr. PRICE. It is a considerable discrepancy, though. You are talking about being able to utilize, well, $9.6 million and now what we have is a proposal of $6.8 million. What was your reasoning behind that original request?

Mr. CARLSON. I probably should have mentioned this first—ISTEA set up money under Section 6005 for applied research. Some of the research that we probably would have done under our basic research program in the pavement area can now be done under item 6005 of ISTEA. I think that our total effort in pavement research is probably actually increased. In fact, it is quite considerably increased.

Mr. CLEMENTS. I would like to just reaffirm that, Congressman Price. There is an extensive effort going on in the implementation of SHRP activities. The pavement performance anticipates that we will be trying new pavements as directed by SHRP. And I see the item you are looking at, that is the basic pavement research asphalt research that goes on at Turner Fairbanks at the present time.

As Dean has said, there is so much more that has gone on recently throughout the country. There are no centers for this. These are carried out through the university systems and through the Asphalt Paving Association and elsewhere. My view is that there is probably more research going on in pavement than ever before in the country's history. It is just spread around in the budget in different places. It is hard to identify.

LONG-TERM PAVEMENT PERFORMANCE

Mr. PRICE. Let me just underscore the importance, at least from my point of view, of this mandate from ISTEA, the need to evaluate these bids, this contracting process based on life cycle costs rather than simply looking at the up front bid.

So if you could supply whatever further clarification you might offer for the record of what accounts this research is placed in and what the agency is doing to respond to this research mandate, I think it would be helpful.

Mr. CARLSON. I would like to also include in that, if I may, the technology transfer activities that we are doing in pavement. We have two asphalt trailers that we are taking around the country that are going to have hands-on ability for State highway agencies to work with the equipment developed under SHRP and their best possible pavement designs. Really research is, in a sense, only as good as the ability to get people in the business to practice it.

So there is training and research and demonstration and the things that we are doing to monitor long-term pavement performance and I would like to include that. We will give you a summation of where we are and what we are doing with pavement development.

[The information follows:]

The Long-Term Pavement Performance (LTPP) program, since its inception in 1987 as a part of the Strategic Highway Research Program (SHRP), has had a required operating budget of $10 million per year. In 1993, the budget level was reduced from the $10 million 1992 level to $6 million. This reduction has caused the delay of initiating research contracts for equipment replacement, material testing and traffic engineering technical support. The $10 million requested in 1994 represents a request to return to the 1992 funding level, so that scheduled research activities can proceed without further delay.

Our pavement research includes both Long Term Pavement Research, as well as, research into the fundamental aspects of the pavement materials, design, construction, maintenance, rehabilitation, management, economics, and the relationships to heavy vehicles. The integration of these two programs will expand our capability to understand field performance as well as to validate and develop laboratory theories and findings.

In real numbers our investment in pavement research will grow due to utilization of funding from ISTEA. A significant investment is being made into the fundamental properties of asphalt materials and mixtures. Under ISTEA, Section 6016, $3 million annually will be invested at Western Research Institute. A major research effort will be initiated in 1994 to support the ISTEA Section 1038 requirements for a $ 2-5 million study of the engineering criteria, economics, and long term performance of asphalt pavements constructed utilizing recycled tires. The results of these studies are expected to support the mandatory use of this product. Section 6005 funds will be utilized to support this research.

Work will continue in the development of performance-related specifications for both asphalt and Portland cement concrete pavements. FY 1994 activities will address controlled field evaluations of the laboratory developed criteria. We will expand our accelerated pavement testing capability at the Turner Fairbank Highway Research Center, with the manufacture of a second Accelerated Loading Facility, to provide more rapid implementation of technology such as the SHRP SUPERPAVE Asphalt performance based specifications and crumb rubber modified pavements. It is anticipated this research will be supported utilizing Section 6005 funding.

As we evaluate and better understand the findings of the SHRP, it is expected additional research will be required to advance the findings to ultimate implementation. We expect our FY 1995 request in pavement research to address this need.

MOTOR CARRIER RESEARCH

Mr. **Price**. That would be very helpful. One quick final question in the research area. While many of these research areas did receive decreases, and I understand the reasons for that in terms of the budget constraints we are all faced with, you do propose a large increase in motor carrier research, an 83 percent increase according to your budget justification. I am now referring to page 101. Why are you emphasizing this area especially with the substantial decline in other research priorities.

Do you really think all of this research is of the highest priority?

Mr. **Carlson**. Again, let me speak to the basic research category. If you take the amount of money that is coming to us through item 6005 of ISTEA, and the amount in our generally funded budget, we have close to doubled our overall research in this agency. Our research effort is up almost 100 percent and so when you see that increase in motor carrier activity, it really isn't as representative of an anomaly in increasing research as it might appear to be.

As far as what directly we are going to do with the motor carrier research, we have a couple of very large research efforts under way on driver fatigue and sleep apnea. That kind of activity I think John could talk about better than I.

Mr. **Eicher**. Yes, Congressman Price, the actual increase in the request for the motor carrier research budget from 1993 to 1994 is from $4.2 million in 1993 to $7.7 million in 1994. So while the percentages are rather high, there is quite a pent-up demand for answering some key research questions relative to motor carriers. A large chunk of our research endeavors help to support the directions that we should be going in our regulatory program.

Mr. Carlson alluded to the fatigue research which we are doing cooperatively with the American Trucking Association's foundation. The results from that should lead to a quantification of whether we should or should not amend our current hours of service regulations.

Beyond that, we are getting more and more into the reevaluation of our current medical requirements that are imposed on drivers. With the emergence of the American Disabilities Act, we are getting more and more pressure to take a hard look through the series of research studies at our current medical qualifications standards.

There are also some research activities that are actually mandated in ISTEA. They call for us to look at, for example, some issues relative to mandating entry level driver training and also to look at the operational and handling characteristics of longer combination vehicles. All of those are a part of the increase in our budget requests.

Now, I have left one of my favorite topics to the end and that is the portion of the research budget that is targeted to increasing the capabilities of our nationwide motor carrier information system. This will help States and Federal offices nationwide to have the wherewithal to get information on the $1.6 million roadside safety inspections that are done annually nationwide.

It will allow them also to have access to a list of motor carriers. There are about a quarter million truck and bus companies nationwide that are involved in interstate and foreign commerce. We are increasing the capabilities of those information systems to include accident data on trucks and buses. It will also include information on truck weighings and there is over 150 million weighings a year.

It won't be this year, but in the next couple years there certainly will be the increased capability to channel not only our resources, but for States to channel their resources to the worst actors. These are the companies that are overrepresented in flunked inspections, in the accident operation and also are inclined to hire drivers who become disqualified as part of the Commercial Drivers License Program.

There are a number of topics that we feel have a very high priority in the motor carrier research arena and that really are long overdue. That is the reason for our request for an increase in 1994.

Mr. PRICE. I appreciate this additional information. All I would add is that the same discussion that we had earlier about priorities, about the need to make certain that we are maximizing the economic impact of our research program, that applies here as well and I think we are going to need increasingly to ask those hard questions about why we make one choice in allocating these scarce dollars.

Mr. CARLSON. Congressman Price, we do have in the agency a research and technology executive board that consists of all of our top administrators and we meet and try to do that. I have been pushing very hard to develop some criteria on how we ought to cut up our research budget.

We also have the RTCC, Research and Technology Coordinating Council made up of outside people, some state highway people, some people from places like UMTRA in Michigan and the South Research Institute. That body looks at our program and advises us if they think we are putting too much of our resources in one area and not enough in another area. I feel more comfortable that we are getting a handle on how we allocate our research funds to get the most bang for the buck in our research.

Mr. PRICE. Mr. Chairman, I have one additional question I can submit for the record having to do with the international activities of the National Highway Institute. Thank you.

NATIONAL HIGHWAY INSTITUTE

Mr. PRICE. I notice in your discussion of the National Highway Institute that NHI is increasingly working with other countries and organizations like the World Bank to transfer American knowhow, technology and training in the highway transportation area.

What exactly are you doing in this area? Do you have any success stories to report about American exports going up because of these efforts .

Are you coordinating your efforts with the Department of Commerce and state export promotion agencies to make sure that this work by the Institute is positive for American business?

[The information follows:]

The Federal Highway Administration's National Highway Institute serves, at the request of the Pan American Highway Congress, as the Headquarters for the Pan American Institute of Highways (PIH). A network of 33 PIH technology transfer centers in 14 countries has been established to solve the transportation needs of the Americas.

The National Highway Institute provides a continuous stream of information, publications, brochures, and technical expertise directly to the PIH centers. The centers are interested in information on U.S. equipment, materials, suppliers, consulting services, and contractors. The PIH centers and their respective highway agencies are now participating to a greater degree to CONEXPO, American Traffic Safety Services Exposition, American Public Works Association, Transportation Research Board, Institute of Transportation Engineers, and other U.S. organizations. Thus, by working with the PIH centers, we indirectly have involved the decision-makers of the Americas with U.S. Industry.

The National Highway Institute works closely with the Economic Development Institute of the World Bank and with the International Road Federation over the past two years. One of the efforts we have been supporting is a program known as PROVIAL, or Pro Highways. It has been estimated that some $2 Billion of highway infrastructure has been lost in Latin America due to lack of maintenance. PROVIAL promotes programs and technology that will provide better and more frequent highway maintenance. The Pan American Institute of Highways identifies and helps obtain speakers from the U.S. private sector for PROVIAL. These speakers provide management tools and advice to the various levels of government in a "Bottom Up\Top Down" series of workshops that are designed to create the awareness of the need for timely and effective maintenance. As the Latin American countries implement programs to address the needs, it is expected that since the highway engineers in these countries have been talking with representatives of U.S. firms then they will purchase equipment and materials from U.S. suppliers. The intent of the PIH effort is at the very least to place U.S. firms on an even playing field with the sales forces of other countries.

With the United Nations' Economic Commission for Latin America and the Caribbean, the PIH centers have been sponsoring a series of Seminars and Follow up activities which demonstrate the need for a dedicated maintenance fund in the various countries. Again, this will eventually lead to greater U.S. exports as the countries buy the equipment and supplies that will be needed to maintain the roads.

The National Highway Institute has been creating an awareness for increased highway safety by cooperating with such firms as 3M, Energy Absorption Systems, and Potters Industry and conducting courses that lead to increased consumption of U.S. highway safety products. Interested highway department administrators and engineers from Latin America have visited with these companies. The countries are using more safety materials and this has resulted in increased consumption of U.S. goods.

Our primary effort has been to help create an awareness of U.S. products and U.S. expertise. The National Highway Institute stays involved with the highway problems of our Latin American neighbors, furnishes literature on products from U.S. firms to the countries of the Americas, and assures that U.S. firms meet with the highway community of the Americas at appropriate times. In this way we help U.S. Industry compete in a global market.

Our feedback on the positive effects of the work of the National Highway Institute comes directly from U.S. firms such as 3M, Energy Absorption Company, and American Traffic Safety Services Association. So far every indication we have received is we are having an extremely positive effect for American Business. In addition to industry, a number of U.S. universities have found new ways to recruit students and exchange professors through the network of PIH centers. A number of the consulting firms have also confirmed this positive effect.

The efforts of the National Highway Institute are not specifically directed towards any one product or service. Rather, we promote better construction of roads and more frequent maintenance and greater levels of effort for maintenance and safety. As our efforts become more and more productive, the loss of resources by the developing countries due to inefficient or negligent maintenance will lessen. The money that is saved will then allow the Latin American countries to invest in modern U.S. made equipment and supplies.

CRUMB RUBBER ASPHALT

Mr. Carr. I have had a number of inquiries about the rubber asphalt issue and hopefully will have some public witnesses address that and we might have a hearing that is devoted to that topic entirely. I think all of us have received communications from people in our own States that indicate that the zeal with which ISTEA pushed this idea may have been premature and inappropriately so.

Mr. Carlson. Congressman, may I make one comment in that area? Certainly I think this Committee would be interested in the surveys by the American Association of State Highway and Transportation Officials. Based on an average sized paving project plain hot mix asphalt would cost about $352,000. If you use a nonpatented crumb rubber process, the cost would be $529,000. And if you use a patented crumb rubber process, the cost would be $699,000. So it is almost a 2 to 1 ratio if you use a patented process. Since paving makes up about $10 billion a year of our budget, we were somewhat chagrined that the economics of crumb rubber asphalt was not taken into consideration in the bill.

Mr. Carr. Well, I think this points out legislative results that sometimes, for lack of a better word, are pork barrel without being geographic and those perhaps are even more insidious than some of the geographic ones. If the geographic one is a mistake, it is a mistake in that area. If it is a waste of money, it is a waste of the money in that area. This kind of direction can infect the entire country with poor decision-making. And I am sure it was well intended.

I am sure that those people, not imputing any evil motives to people who were advancing this, but the fact is it has an enormous budgetary consequence and it is of great interest to this Member, so much so that I think we may try to schedule a hearing that would be dedicated to this.

Mr. Price. I very much hope we can do that. I think it would be of great importance.

FULL FUNDING OF ISTEA

Mr. Carr. Well, turning back to the issue of the overall problem that is facing this Committee in terms of funding and transportation, the Clinton administration campaigned partly on a pledge to rebuild infrastructure and somewhat unfortunately, in my view, the most tangible expression of this campaign pledge has become the full funding of the highway portion of ISTEA.

It has become sort of a mantra, I guess. Every group you go to, whether it is the contractors or the highway officials or you go to the Municipal League or you go to the League of Cities or National Association of Counties or the National Association of Townships, wherever you go there is sort of this drumbeat "full funding of ISTEA."

I have my suspicions where that all gets started but the fact of the matter is it hasn't been terribly productive. It is sort of an "I want, I want, I want" kind of a mantra. It doesn't tell us whether the levels of ISTEA are appropriate levels to begin with. It assumes that they are.

And it has become a real problem for this Committee. The President's fiscal year 1994 budget request for FHWA similarly includes full funding for ISTEA. But in particular it does so in a manner that is really troublesome. I am not sure I would call it a gimmick, although some have called it a gimmick. The problem is that the congressional budget resolution, which the President also says he supports, by the way, cannot accommodate the President's 1994 request and the investment proposals that he has in his budget.

I think sadly the administration knows this and it even included a general provision in the investment category of the budget that states that none of the investment funds can be spent until Congress enacts a reconciliation savings that will offset the investment spending.

The problem we have is that the administration has advertised that it is requesting full funding for ISTEA. And that puts the Congress in the position of being the bad guy if full funding isn't provided.

We probably will not have a sufficient allocation of resources under the congressional budget resolution to provide full funding. To be more specific the outlays assumed for the transportation function in the budget resolution are $3.6 billion less than the outlays in the President's budget for transportation with the investment funds included.

There is absolutely no way for us to cut other activities by that amount in order to provide full funding. We are trying to get the word out that although the administration's proposal includes full funding of ISTEA, it cannot currently be accommodated within the terms of the congressional budget resolution. We certainly would appreciate your help in telling this side of the issue in informing the Secretary and the Office of Management and Budget, indeed the President himself, perhaps, and any trade and interest groups of the dilemma we face. Can we count on your help in this regard?

Mr. CARLSON. The only thing I think that I can say there is that your figures are exactly what we are aware of in the administration so I don't think we need to tell the Secretary and OMB because they are aware of it.

As far as letting some of the interest groups that we work with know that there is a problem, I think we have already started to do that. I don't know whether that will ease your difficulty or bring additional pressure.

Mr. CARR. Well, it presents a terrible dilemma to this Committee which I think has historically been a friend of transportation, a friend of highways, a friend of transit, to seemingly intentionally be put in a position that we are in, so that somehow or other we are in the position of having to be the bad guy, the fall guy for the fact that the President's own budget does not include enough authority to carry out his campaign pledges.

It seems to me that we might have to consider asking the Secretary to come up here and tell us if full funding is of paramount importance then where would he like us to cut $3.6 billion out of his agency.

I am sure he wouldn't want to be put on the hot seat, but quite frankly, this friend of transportation doesn't like being put on the hot seat either.

We certainly solicit your help. Part of the problem and I might say I just saw another full-page add the other day from one of our friendly groups who is interested, as we are, in transportation sounding the drum beat, "full funding of ISTEA." We really would seriously solicit your help in trying to turn this situation around because I think that they have a number of people who are acting on hype, trying to advance their own particular cause without knowing that if we did what they proposed in a couple of years we would be cutting their funding. It seems to me that that is not fair to those who have to plan and so we really want your help.

ISTEA FUNDING FLEXIBILITY

Mr. CARR. The ISTEA represents also a major departure from the previous transportation programs oriented toward separate highway and transit programs.

The States now have flexibility. For the purposes of analysis, how is FHWA defining funding flexibility? Are you meeting with FTA? Are you able to put some definition on the term "flexibility" and how are you analyzing it?

Mr. CARLSON. We really haven't done any specific analysis of any impacts of the amount of money that has been transferred to transit from highways. There is no money being transferred from transit to highways which is also allowed under the bill.

Mr. CARR. Did you really expect any?

Mr. CARLSON. Yes, I did. As a matter of fact the first call I had after ISTEA passed was from a North Central State and they said what do we have to do to get at our transit money, thinking that all transit money would be available and it is not. It is only the formula allocation money. In any event, I think what we would hope to do is as we develop the urban planning process, the metropolitan planning agencies develop their processes. Both us and the FTA will work with them to see if there is a rationale for the type of projects that they may propose. I am sure that they will be up here to testify so I shouldn't speak for them, but they did an alternatives analysis on their investment dollars. I think they would propose to do that, as well. Our program and urban transit planning regulations will have an alternative analysis included in them.

We will be in a better position to give you an answer to that after these regulations are finally published and we get some experience under them.

Mr. CARR. To what extent will meeting the interrelated legislative mandates of the Clean Air Act and the Americans with Disabilities Act require funding realignments by States or urban areas? Is that pushing a lot of the flexibility requirement?

Mr. CARLSON. I think clean air is apt to push more of the flexibility requirement than ADA and it will make it more difficult to put into place single occupancy vehicles lanes on existing facilities. It will also encourage States, I think, to use some of their money for additional high occupancy vehicle lanes and also for transit. The States control that congestion management and air quality fund and I think that is the kind of uses that they will have for it after they get their plans prepared and approved under the air quality law.

USE OF IVHS

Mr. CARR. In terms of your own supervision of that, are you forcing the MPOs and the local government units to consider IVHS and its impact as well?

Mr. CARLSON. Forcing I think would be a stronger term than I would like to use. Certainly, what we are trying to do, is through the operational tests around other activities we have under IVHS, get the awareness of the possibilities of what you can do to improve air quality with IVHS activities on the forefront of the knowledge of people who work in this area.

Now, how effective that is going to be, I think, is open to question yet. IVHS has also a transit component and I think that they expect to have some improvement in their efficiency of their transit system as a result of IVHS as well.

Mr. JUDYCKI. Let me just add that those types of issues that keep coming up now that the program is maturing are very, very important, especially issues such as the relationship of air quality to IVHS applications. Much of this will be resolved as we, first of all, do research. We do have some underway to try to clarify the relationship. Secondly, we need to get some more visibility to that issue.

There was a recent conference out in California on just that subject, air quality and its relationship to IVHS improvements. And, of course, once we get into congestion management systems and the application of techniques and deployment, we will have to do much more evaluation in that area.

LIGHT RAIL SYSTEM

Mr. CARR. Well, of course, it is just anecdotal but we have a number of communities coming to this Committee asking for section 3 funding of one thing or another. Many of them use the argument of nonattainment and congestion and then when we ask them did you consider using IVHS in your ridership forecasts for your new light rail system, the answer invariably is, no, and some have even said what is IVHS?

We are concerned about these ridership forecasts which have a promotional quality to them and these are things where they get themselves all worked up over a light rail system that is going to solve their congestion and their air pollution, all these problems. They even make claims that life cycle costs will go down, which FTA itself says probably won't happen. They all use it as a way to get money from this Committee.

Now, I can imagine that when they are sitting around talking about how they can move money from highways to light rail they really get worked up because no one there in my judgment is asking those kinds of questions. At least I worry that they don't ask those questions. We are going to ask the questions and we are going to try to hold their feet to the fire on looking at all alternatives, including IVHS. But we would like some assurance that

FHWA is asking the same question, saying, you want to do this, have you looked at IVHS and its impact on your problem?

Mr. CLEMENTS. Mr. Chairman, this is an unsolicited comment, perhaps. As you know, I spent most of my life in the State and private sector. I am a new arrival in FHWA and I talked a little bit about this earlier this year in December and so maybe I could give you maybe an outsider's look inside of FHWA for a moment.

You didn't ask it quite this way, but I am sure the public perception is that the FHWA is probably still interested in highways and conserving the funds that they have for highway uses, but I can tell you that I have been absolutely amazed, having come from a major urban area, to find the efforts that have gone on within FHWA through FHWA 2000, as well as a lot of business planning. There is a great deal of integrated and multimodal thinking within FHWA these days.

I think if you could get inside the skin of the FHWA organization as I have the last two or three months, you would find that any criticism that you get before this committee about FHWA not thinking of how to integrate the system and make it user friendly and energy efficient is wrong.

I find people throughout FHWA are very conscious of those efforts. We have joint committees with FTA for research. We have joint advisory committees that serve the same function. Pat Wohler serves on the same committees as those that serve on the highway committees. There is a lot of integration and if the community of interest on the transit side isn't accessing the level of funds that they would like, I don't think it is because of lack of cooperation from FHWA. I believe that the message of ISTEA has come across loud and clear to FHWA and the staff is way out in front of this issue.

Mr. CARR. I don't doubt that. That is not really where my concern is. My concern is more that the locals who have a need to get a light rail system before anything interferes with that are going to try to push more highway money into transit too soon.

I am not unfriendly to transit. We certainly have a lot of it around my area, but I have a tendency to think that the highway, the road is still the main mode of physical communication in this society.

Mr. CARLSON. I think it will be and I think it is now and I think that our thrust has been to work very hard at getting a national highway system that will take care of the commerce and industry of this country to the best possible extent and also then take advantage of the flexibilities in ISTEA that are laid out for us.

Hopefully under our planning process no money will be transferred from highways to transit or vice-versa unless the metropolitan planning organization and the State who we funnel every dollar through are in agreement that this is a proper solution for a problem. It can't be just a local agency that makes a decision without concurrence of their highway agency, and I am sure, as you have said, politics can't be completely divorced from that. However, I think at least with the alternative analysis and the information that we are going to have out of the planning process, I am very hopeful that the proper use of the flexibility provisions will be what we are driving toward.

FLEXIBILITY PROVISIONS

Mr. CARR. Well, I hope so and I know that it is probably not your role and mission to supervise these local decisions. I find, though, that I am worried, frankly. We have a number of communities, from my own experience, where local leadership would see city streets deteriorate in an effort to force people on to a mass transit, a form of mass transit that is perhaps not cost-effective. They will rob Peter to pay Paul.

Goods are moved on trucks through city streets, and I don't know of too many grocery stores that are supplied by mass transit. Their workers may get there, but you know, the boxes of cereal and the daily delivery of meat and the rest of it comes by road. So in local communities seeking to get votes from certain populations, there is I think a tilt away from freight toward people.

And yet there is no Federal amendment—we have handled that at the national level. We have our interstate system. The national network and the major regional networks are pretty well guaranteed by the Federal Government.

You get into some of these urban areas and the only thing they are worried about is getting somebody to a job. They are not worried about getting the goods to the grocery store.

Municipal streets and things can deteriorate while they are pushing their light-rail project and what happens? It happens because you rob from Peter to pay Paul at the local urban level, and you hope to leverage Federal dollars into a light rail system.

I am being extreme I know in my example, but it is just to make a point that when you get to the local level, the Federal dollars move people, they don't move freight and it is freight movements that determine the long-term economic viability of a community as much if not more than the people movers and there is just a little local bias.

So I worry about flexibility. To some extent I think it can be well intended but I think it can be very harmful and that, frankly, is not intermodalism.

Mr. CARLSON. No.

Mr. CARR. That is intermodal financing. How do I finance my mode with your money? We need to do intermodal planning. That is largely a goods problem, again not a people problem. So excuse me if I am a little suspicious of intermodalism I hear in ISTEA. I think it was a euphemism for robbing one pot to pay for another pot's needs and those are not equal. Those are not equal.

We keep hearing things about how everything has to be on a level playing field. A fireman or woman does not get to the fire on a bus. An EMS that is going to take grandma to the hospital isn't going to get there on a bus. And yet at some of these local urban levels, you would think it was all transit.

NEW HIGHWAY QUALITY ETHIC

Mr. CARR. The most recent FHWA administrator, Tom Larson, is quoted in the March issue of Focus, the newsletter of the strategic highway research program, as advocating a new highway quality ethic. Mr. Larson mentioned five elements of a proposed new highway quality ethic and this is his call toward innovation and cost-effectiveness in engineering.

Mr. Larson states, "We must rapidly move to life cycle costing, and we should design for a minimum of 40 years and a minimum load of 120,000 pounds gross."

What are your opinions of Mr. Larson's view?

Mr. Carlson. I heard him express that view at TRB, and I don't even get to wear two hats, but the economists in the very early stages in my career told me we were being shortsighted by not allowing much larger trucks to run on the system. And naturally as an engineer I asked why should we do that when we tear up all of the pavements and bridges?

I think probably Dr. Larson has been at this longer than I have and has from the standpoint of experience believed that we will end up with that kind of a vehicle, therefore it would do us good to consider right now what we are going to have to design for when we start talking about 40 year design lives of pavement.

I am afraid based on the experience I have in the last four years of trying to regulate truck size and weight, that I probably would have to say I agree with him. In a large part of this country we are apt to end up with bigger vehicles than we have right now.

Some States are running very large vehicles at the moment with permit systems that do not recover the cost of the damage done by the vehicles. We have worked with them on that and on some occasions there have been waivers to the size and weight of vehicles that have been approved by Congress. I think that the trends are in the direction that he said we probably are going to have to live with.

Mr. Carr. Would Michigan be one of those States?

Mr. Carlson. Michigan for a long time has had gross vehicle weights that are very large. But they also have so many axles that they can barely have anything go in between it. So the axle weights of the vehicles that are carrying steel in Michigan are not that heavy. I don't believe there is special legislative action other than the grandfathering clause to allow those large trucks to run in Michigan.

Mr. Carr. This is just an aside. I think the folks in Michigan would say because they distribute the weight over so many axles it isn't a material fact in the maintenance of the particular highway, but then that raises the question of a bridge, where the entire vehicle is sitting on a bridge.

Mr. Carlson. Short bridges are particularly susceptible to that. I think Michigan actually runs those over a controlled network. I think the gross vehicle weight on those vehicles is 154,000 pounds and it is only for interstate highways, so one would have to assume they considered that loading on their bridges and know what they have got out there.

One of the problems of trying to get to a situation where the economy would be helped by larger vehicle sizes and weights is that it is very difficult to do it all at once. How do you restrict the vehicles to the proper locations if you are going to try to make that kind of an economic jump?

This is not a new issue and we have some difficulties in trying to administer truck size and weight laws with the various States that want to have larger trucks. In some cases it is not only heavier weight trucks, but they want double and triple combination vehicles where they are not allowed now.

Ms. BLOOM. I just might add, you are aware that under the NAFTA which does not change our truck size and weight laws there still are negotiations that may occur subsequent to its enactment that will involve us with the Canadians and the Mexicans and both of those countries do allow carrying heavier vehicles.

Mr. CARR. What vehicle weights do they have typically?

Ms. BLOOM. The Canadians, about 120,000, with a different axle spacing. The Mexicans, heavier also, although not identical to the Canadians. One of the prime things we have been concerned with and my office and John Eicher's office look at continuously is the safety implications of longer and heavier vehicles.

There has been a paucity of data on their involvement in accidents and their contribution to fatalities and to accidents and incidents. We do try, as part of our research, to maintain our ability to at least study and project so at some point in the future we will be able to have some meaningful answers on the safety implication.

NAFTA

Mr. CARR. Given your discussion about NAFTA, can you tell us what you know about negotiations in this regard?

Ms. BLOOM. When NAFTA is agreed to, then there will be set up a land side transportation working group that probably for our area will build on the existing working group with the Mexicans. It will add the Canadians as full partners.

It will look at a variety of issues, and it will open with discussions to better understand the differences within the countries and the variances between the provinces in Canada, the States here and in Mexico. It will discuss whether there are different levels of involvement of the Federal Government here in the States versus the national government in Canada and the provinces.

So we would assume there would be a long period of discussion sorting out of just what are the facts and what things are like before any recommendations would even be considered.

Mr. CARR. This is a policy issue which would probably have to be taken up by other committees, but nonetheless, given our level of interest in how we finance these things, do you think it would be appropriate for the, say in a post-NAFTA world—now I don't know that NAFTA is going to pass. I think some agreement is going to pass at some point. And, I don't know whether this agreement is going to pass—but do you think it would be a good idea if we were to designate reaching the problem that Mr. Larson was pointing out? Where do you do this? You can't do it all at once. But would it be a worthwhile idea to maybe designate certain land bridges between Canada and Mexico routing through the United States along which you would concentrate a first effort at improving the quality to 120,000 pounds and a 40-year life cycle?

Mr. CARLSON. Well, in the first place, any change in the U.S.'s size and weight laws would require a congressional action and I think there is also a lot of people in Congress that are reluctant to have an overall size and weight approval. The concept of having some corridors where you could try to design for a larger vehicle is appealing, but until we get NAFTA approved I think we would probably say that we would not want to really examine it all that much, because we don't look at size and weight issues until it passes, if it passes.

We have five groups that are working on NAFTA issues right now with the Mexican officials—tourism, cargo types, CDL reciprocity, and standards and specifications for vehicles—but the emissions standards and size and weight issues are just coming on to stream as far as items to discuss. We all know where we are in terms of getting NAFTA approved and when it is I think we might be wanting to revisit that issue.

That is a concept that I think has some promise. There are some groups in the western United States that are thinking in those terms right now and have done some research.

EUROPEAN DESIGN AND LIFE CYCLES

Mr. Carr. Now, recently there was a study or it has been I guess in the last two years, some information coming out of Europe about how they design their major arterials, their life cycle policies. What is your opinion of some of that information?

Mr. Carlson. Well, it is excellent design policy to build a very heavy pavement for a 40-year design life and we could do that in this country. We made a decision with the funds that were made available with the interstate and the speed at which we were able to build the interstate that we would build a pavement that came from the actual road tests that did not provide for a 40-year design life. Our design standard was 20 years in the legislation and we attempted to design for that. It is also based on the traffic, the anticipated versus the traffic you actually got, so our designs worked out rather well. That means, though, that we have got some sections of pavement that have exceeded their design loadings and their design life and they need to be worked on.

It would be nice to have been able to take the money to build those kinds of systems on the interstate system, but I am afraid that we may not have been enjoying a 42,000 mile system. We might be only at half if we had spent that kind of money.

PAVEMENT MANAGEMENT

Mr. Carr. This isn't to second guess the decision-makers. I think getting something out there for 20 years and getting it out there relatively quickly was probably a good idea, but now, now you see we are at the end of that design life. Now we are spending enormous amounts of money on reconstruction. And now would be the time to say that on selected alignments, selected arterials—a subset of the NHS, or maybe even a subset of the subset because the interstate is a subset of the NHS—would be designated as an arterial which for its special commercial linkages would be such that when a segment is reconstructed, when it just wears out and you are to have to rebuild it, you rebuild it to a 40-year life cycle.

Mr. Carlson. I would like to hope that our pavement management system is going to help us answer that question. I think that it will. If you are going to rebuild the pavement, then you ought to build a design that will be a much heavier design than we have had before. We are doing that.

The difficulty is how much money do you spend on rehabilitation while you wait. That kind of an answer also should come out of the pavement management system so that you essentially maximize the service that you are going to get for the dollars that you have available to spend.

Some of that is going to be directed towards a complete reconstruction and in those cases, for example, in my home State of Nebraska in the Omaha area they are building 14-inch concrete pavement for that very reason. That is probably heavier than most in the country, but if you are familiar with Interstate 80 it is one of the major routes from the East to the West and they have a tremendous amount of heavy truck driving.

I think that is kind of where we are heading and I hope that pavement management systems will give us better data in order to make those kinds of decisions.

Mr. CARR. Your research and development funding requested for the study of pavements in 1994 is how much? $6.8 million, is that right?

Mr. CARLSON. I think that is coming out of our general operating expenses.

Mr. CLEMENTS. That was the question that Congressman Price raised earlier.

Mr. CARLSON. We also have some money that is coming out of section 6005 and we also have the results that are coming out of the Strategic Highway Research Program which we have spent about $100 million on pavement activities under that program. So we really have considerably upped our pavement research over the last five years, even though that request for GOE money is down slightly.

The other thing we are trying to do is implement these technologies including the pavement management systems. Many States have a pavement management system. Our regulations should more normalize those and we will have a better feel for how effective they are in the future.

Mr. CLEMENTS. Mr. Chairman, I think sometimes the long-term pavement performance aspect is misunderstood and maybe we should clarify it. I find even within our own industry a lot of people feel we are going to have to wait until 20 years until all those tests are complete before we change the mix.

And that is really not the intention. The intention is to get some advanced sections out early so that in the next two to three or four years we can start to do mid-course correction on pavement design. That will give good pay back early.

NATIONAL HIGHWAY SYSTEM

Mr. CARR. The Secretary is required to complete his list of proposed designated highways for the national highway system by December 18, 1993. What is the status of the effort to define the NHS?

Mr. CARLSON. We pretty well finished the functional classifications of all public roads that is required by section 8006 and there are a few States that are dragging, but on the other hand we don't have enough people to look at 52 functional reclassification studies at the same time. We expect that to go on and be finished and we also think most States are going to meet the April 30 deadline for their submission to the NHS. We intend to analyze that after we got their submissions and visit back with the States on the issue such as connectivity at State lines, mileage totals and so forth.

We know of only a few areas where we think we may have some problems. There is a group of States in the upper West, upper mountain West that think they need considerably more money or more mileage on the system than we would anticipate would be their fair share using a 4 percent rural mileage criteria.

So we were going to have some negotiations but we are confident we are going to meet the December 18 deadline for submission. The submission is not going to be just a map, either. We hope to submit a proposal that will have some rationales, some justifications, some economic impacts, some, possibly, design standards and so forth that will help Congress see the importance of that submission.

We also are working very closely with the Defense Department to make sure that their needs are taken care of because as they have downsized, they have told us that their ability to move their people and equipment to ports in case of another issue like Desert Storm is critical and they have a very, very strong interest in the national highway system.

STRAWNET

Mr. **Carr**. Now, here it would seem to me where some intermodal thinking is important. To what extent are you taking into account existing rail hubs, air hubs, perhaps even existing truck hubs?

Mr. **Carlson**. In the development of STRAWNET, the Defense Department gave that full consideration and they still are very concerned about the ability of a highway system to carry the kind of loads and the kind of equipment and people that they are going to need to move in order to mobilize on a very short-term basis.

If you are going to project forces, you have to be able to mobilize in a matter of days, and while the rail system can handle very heavy loads, and I am not exactly quoting the Defense Department spokesman who I heard last Monday on this issue, while the rail can do it, they want to do it in a timely manner. He advised us at AASHTO that they are going to be looking for highways for their quick mobilization from about five different Army installations around the country and it is going to be critical that they be tied together with the system to get to ports.

Mr. **Carr**. My question didn't relate specifically to the defense needs. It was really more on our economy's needs. We already have airport hubs. We already have rail hubs. Are we assured that the NHS won't leave them out?

Mr. **Carlson**. That is part of the criteria, for the NHS to have that intermodal connectivity with ports, airports, rail yards, and so forth. We would anticipate that those kinds of facilities would be included in the NHS and we will work hard to get that done.

It is critical that you be able to do that. Right now, I think if I am not mistaken, the trucking companies are one of the best customers for the railroads. Containerized freight is taking over the rail industry for other than bulk commodities, and they tell us that the trucking companies move a tremendous amount of freight in this country over the rails. That gets people off of our highways.

Mr. CARR. To what extent are you requiring NHS distribution to put a minimum amount of mileage in every State? Are you required to do that?

Mr. CARLSON. No. The designation in ISTEA indicates a 155,000 mile system, plus or minus 15 percent. Some States are coming in lower amounts that we would consider a fair share designation under that kind of system. There are four States that I mentioned that are coming with a request for considerably higher mileage. Whether or not we can take all of that and put it together and have a really rational system, I think the answer has to be yes, but it is going to take some negotiation.

Mr. CARR. What are those four States?

Mr. CARLSON. Wyoming, Montana and the two Dakotas. These are the ones that have indicated that they are feeling constrained by the amount of mileage that we had in our guidelines.

Mr. CARR. I get a little worried about the designation from that standpoint. I mean, there are certain—and it is just evident in transportation—certain people who look at transportation not as supporting economic activity but attempting to drive it, enforce it.

And so I could fully well imagine that there is a Governor, a mayor, who continually has to face voters with a high unemployment rate and a few other things and saying if we don't get more miles of highway in the NHS system, regardless of what—this is just what we face day in and day out with the field of dreams airports and the field of dreams highways, and this is just the field of dreams system. Put me on the system and all roads will lead to my little burg and my little burg will be on the map and it will be connected to the world and it is only a matter of time that we will just grow our way out of every problem we have ever had. Is there going to be a lot of pressure for that?

Mr. CARLSON. Yes, I think so, but the one thing that will help, I believe, is that the States in doing the functional classification systems, set up some of the criteria for the system, and that will help us hold down the level of mileage that will be requested.

Some of the mileage obviously in every State is already out there, the interstate is already out there and certainly we would hope that would cover a lot of the STRAWNET mileage. One of the things that indicate, to put your concern about it is certainly true, is the high priority corridors and how many more of those might be in the offing, we don't know. Some of those would be in the national highway system in any circumstance and others probably would not. We have an arrangement wherein the State says some high priority corridor out of ISTEA is not something they think should not be on the corridor we could probably come to the Congress and recommend provided we get connectivity with the adjoining States. We don't anticipate that happening very much.

I feel the other situation you described will be more of the case. The States cannot go beyond the limits of their functional classification which I think is going to provide us with a little bit of control.

Mr. CARR. Are you presently aware of any what you would call "undue pressure" in terms of designating certain segments for the NHS?

Mr. CARLSON. They may have made some assumptions about it, but I don't think we have gotten to the point yet where we tied it down definitively enough that people know whether they are on or off of it. To my knowledge, we haven't had any particular strong pushes from localities or from local groups to be added on to NHS.

I think I would have to say that I hope that that pressure if it comes will come through the designation process after we send it to Congress and let the political process take its course. We are certainly willing to give advice from a standpoint of highway people, but I think that Congress is going to have to deal with it. I hope that we will give Congress a very rational and an implementable system for the NHS.

Mr. CARR. I probably should know this. I will try to find out if you can't help me out. Does the national highway system as it is presented to the Congress, it is amendable or is it like a base closing thing?

Mr. CARLSON. No, sir, it is not like a base closing thing. It is a system that we will send over and it is required to be enacted into law by 1995 in order to have continuing appropriations of NHS money. But there is nothing that says that a Congressman can't add a section to this, other than the fact that it-in order to be added, it would have to be on the functionally classified arterial system.

Mr. CARR. Boy, are we in trouble.

Mr. CARLSON. Obviously, you can do it but it takes special legislation, I guess is what I am saying.

TOTAL QUALITY MANAGEMENT

Mr. CARR. Now, that is something to think about. Earlier this week the Commandant was telling us of the success the Coast Guard has had with the total quality management approach they have been using. What is the Federal Highway Administration doing to implement TQM?

Mr. CARLSON. We have two units that have been implementing TQM in those terms, that is our Federal lands office and our regional office in Fort Worth, Texas. We are watching to see how that goes. In the meantime, FHWA is a participant in the national quality initiative and we have been through a process that we call FHWA 2000. This involved looking at our organization and attempting to get a bottom's up look at how we do business. It leads us into having continued quality improvement be the way that we do business.

I am always a little bit suspicious of buzzwords and TQM. Some people have tried it and didn't like it and it turned some people off, so instead of calling anything a special system, we are just saying we have got to figure ways to do what we do better on a day-by-day basis and extend that through an agency of about 4,000 people.

Mr. CARR. Do you know if any State DOTs are using TQM and are you urging them to?

Mr. CARLSON. Some of them are involved. AASHTO is also a member of the National Quality Institute. Under whatever name, we and the States are involved in a lot of training activities on TQM or quality improvement throughout our agency. And the principles of TQM, it seems to me, translate into an ability and willingness to have employees do the best in the most positive manner they can on a day-to-day basis on all the aspects of the program that they work on.

That is where we are aiming by this training and by having listing sessions with our people trying to improve our processes. We are doing that across the board with the highway agencies. The thing that I like particularly about what we are doing nationally is that, for the first time, we really have the contracting fraternities tied into this. The industry is now a partner on TQM and some of those folks are as excited about this as anybody.

I think there is a reason for that. They see us moving away from an end result specification where they are told everything that they have to do and giving them instead some authority to come up with innovative techniques, so that they can be part of the process of improving the quality of our product.

CONSTRUCTION SAFETY

Mr. CARR. I would like to just spend a brief couple of minutes on construction safety. Normally we think about it from the standpoint of the safety of the workers. We have an alarming number of people who are construction workers or maintenance workers on highways who are killed every year. That is one aspect of it.

But another aspect came to light recently with the Amtrak accident at the Florida grade crossing where, somehow or other, the temporary engineering of traffic flows caused the lanes to merge after the railroad track, causing a backup that was put on the railroad track, causing a truck to have nowhere to go and a train that couldn't stop. People were killed.

Are there FHWA guidelines about the methodology of temporary barriers and where you put them and why you put them there? Is there anything that you can do to provide methodology out across the country so that things like that don't happen?

Mr. CARLSON. It is hard to say that you can ever stop an isolated incident, but we do have the Manual on Uniform Traffic Control Devices, chapter six, which involves how to handle traffic through work zones; and we do a tremendous amount of training in that area. Our people have had that as an emphasis area for a considerable period of time.

It is a goal of ours to reduce both the accidents and fatalities among workers, as it is among the traveling public. There are other items that caused individual cases where we have had disasters that, when we know about them, we do advertise.

For example, the arrow boards that you see on highways telling people that there is going to be a lane change ahead, these are about at eye level for a truck driver and they run at varying intensities. If you don't turn those things down at night, a trucker is blinded by your safety device. So we have criteria that require that those types of devices be turned down in intensity at night so you don't end up with blind drivers running over people that are confused in a work zone.

I think awareness of the hazard is one of the greatest difficulties we face. If you drive it every day, you know what is out there and you don't have a problem. But for a person that comes through there and gets trapped, you have a big problem if it is not clear as to what his responsibilities in driving patterns are. It is tough to work all the time to get the best training we can to handle that.

Mr. JUDYCKI. Let me just add to what Dean said, the importance of diligence on all of our parts on that. The work zone fatality rate has come down. It is about 600 a year right now and down 20 percent in the last two years. About four years ago, it was up around 800. So even though traffic volumes and BMT has been increasing significantly—and there have been a lot of work zones out there, obviously, with the infrastructure reconstruction—we think that the diligence has been paying off. But it is important to keep at it.

The one thing that is very important, in addition to having the national standard that Mr. Carlson mentioned, is that the maintenance of that work zone becomes very important. It is very important that the State and its work forces go out and check to assure that those work zone activities are properly in place.

Mr. CARLSON. There is a traffic handling plan on every federally aided project that should get at those kinds of issues.

Mr. JUDYCKI. There are also devices that are coming along as technology advances out of the Strategic Highway Research program. One of the products is an intrusion device which will warn workers within the work zone that the barrier has been broken between them and the vehicles, for instance, and we think that that has a great deal of potential.

IVHS

Mr. CARR. I have a number of questions about IVHS, which I am a strong proponent of, and I want to urge you to do more, quicker, if we can do it without wasting money.

There are several issues, though, that I would like to discuss.

One of the issues that we have as a government is to try to figure out how we spend our money on things that are actually going to make a difference, as opposed to those things that are going to dazzle us; and this is an area where there is a lot of technology that is potentially dazzling, but doesn't really assist us in a payoff in the end.

And I am not opposed to dazzling people. I just think that the relative amount of money that is put in dazzling devices that is private versus public should be greater for the private and a lot less for the public.

Then there is also the question of appropriateness of technology. Sometimes we are caused to try to invest in things that we can do rather than in things we need to do. And I think those are some of the issues facing investment in the IVHS area.

IVHS STRATEGIC PLAN

Mr. Carr. Are you developing any—and yet at the same time—let me just continue-at the same time you want to keep things as open and as free as possible to encourage innovation. You don't want to penalize somebody that has a good idea that happens also to be dazzling. So are you beginning to get a notion of what is high priority, essential; what is next priority, nice to have; what is low priority, dazzling, that ought to be left to private dollars? Are we getting a handle on this now in IVHS?

Mr. Carlson. I think I will let Mr. Judycki respond to this. I would only say that everything we do with IVHS is going to be evaluated, and if we don't have more than intuitive reasoning now, we will have in the future good data to say, this is a good part of the IVHS program.

Mr. Judycki. I think that I mentioned a couple of things. As the program has matured, we now have a strategic plan through IVHS America, as well as the Department, which has been submitted up to you. We are embarking on a very important initiative of pulling together a program plan.

That program plan will be the road map that will lay out how we get to the next step, and over the next five years, where we should be investing our money for the greatest payoff. That will actually be a PERT-type of diagram that will be built around user services. Rather than talking in terms of the elements of IVHS, we will talk about what the traveling public can use as a product. We will then base our program on those needs most beneficial to the public. We will not just be chasing technology, we will be chasing the needs of the motoring public.

I would also say that the way the program is being structured is, first, to assure that we can evaluate the benefits. We have the Volpe Transportation System Center, as well as our support contractor, Mitre, working on how we can better evaluate the benefits of IVHS application.

Also I would mention that the philosophy that we have taken in implementing IVHS is that deployment is very important, operational tests are very important, and that we need to establish a structure to assure that we deploy the products that are coming out—whether they are institutional or technical products. We must make sure that there is a payoff as you look towards the more advancing technologies as well.

IVHS AMERICA

Mr. Carr. Now, I understand that the criteria for a lot of this has been put together by IVHS America, that they have a very thick book, which—we have a copy of somewhere; here it is. Is this going to be adopted pretty much by the FHWA?

Mr. Judycki. That was the tactical element that IVHS America submitted to us as a follow-up to their strategic plan last year. They serve us in an advisory committee capacity.

They again asked this year whether or not they should submit another list of projects, as in that tactical element that you held up. Our response was that we were in the process of putting together this program plan, a national program plan; and we would prefer that we and they worked together to put together a national program plan that would lay out where we go next as a matter of priority with IVHS services and strategies.

The tactical element which you have there, Congressman, was used by us this last year and this summer, when we went out to solicit for additional operational tests for IVHS funding. We did use IVHS America's input and suggestions and considered them as we structured our solicitation for operational tests.

Mr. CARR. Well, as a document, it is certainly an impressive document. I guess our question is what degree of confidence should we have in the work product that went into it?

I think if you were there the other day when we held our IVHS hearing, you might have heard me mention that IVHS America is no less a political group than it was some kind of a techno group, that there are politics inside of politics inside of politics here; and to what degree can we have confidence that all the little constituencies of IVHS—as they meet and vie for prominence in IVHS America and board seats and who can be the head of it and all of this other stuff, how can we have some confidence that they did something that was fairly neutral here?

Mr. JUDYCKI. Eventually the bottom line on decisions as to where the IVHS dollars go from the Federal level are with the Department of Transportation, based on advice that we receive from IVHS America. We do believe that the development of a program plan is going to give us the type of input that is necessary to not only plan next year but five years from now.

And as we build the capability to evaluate the benefits of delivering strategies as part of IVHS, we think that this will just assist more in the future to build that credibility into the IVHS program.

IVHS STRATEGIC PLAN

Mr. CARR. Well, of course—and this is inherent in what we all do around here, both this Committee, you, the Public Works Committee—there is a certain investment strategy that tries to get a rate of return and measure it and all those other things. That is what I am trying to do.

But there is a certain distributional strategy that says if you sprinkle enough seeds around, nice little flowers will grow. And I have to say some of what I read in the IVHS recommendations just kind of came out at me, that there was a little something in there for everybody.

And so as a strategic document, it really didn't give me any sense of, okay, now we have this technology; you know, way down the road we can see all things happening; but we think the key first and second and third steps are thus and so.

The notion, for example, that—I don't mean to minimize this. I have a lot of rural areas in my district, but from an intuitive sense, I will tell you the need for IVHS in Byron, Michigan, before, say, Lansing, Michigan, just wouldn't make it. And yet there is stuff in here that Byron, Michigan, might take advantage of.

I would hope that when you folks take this document, you think more in terms of strategic investment rather than strategic distribution.

Mr. CARLSON. I hope we are going to do that. Our program plan that we are going to do will have a sort of a building—block development that will do exactly what you are talking about.

Now, if we develop a good technology under IVHS, and Byron, Michigan wants to use some of their other funds working through their State highway department to do that, then more power to them.

The use of the Federal funds from the Federal Government, I think, for seed money ought to be in a very structured pattern that will lead to development and innovation of new things. It is not scattered over the geography in any sense, and the organizations have the full funding of ISTEA to work those kinds of issues.

Mr. CARR. They may have the full funding of ISTEA.

Mr. CARLSON. Well, the mantra was used again, sir. The thing that I hope will happen is that in a program like automatic traffic signal controls we probably will not have enough money in IVHS, by itself, to ever take care of all the needs of all the cities in the country for better signal controls. So if we can show how it can be done and what the benefits are, we are going to have a selling proposition; and we are going to try to sell that kind of technology with use of our regular highway funds, just as an example.

IVHS TECHNOLOGICAL FRAMEWORK

Mr. CARR. One of the issues raised in IVHS is the issue of whose technology; are you working to assure an open architecture? I think we need standardizations on communications protocols so that devices made by different vendors can talk with one another.

Mr. CLEMENTS. But we don't need to pick winners and losers.

Mr. CARR. We don't need to pick winners and losers. Is that inherent in FHWA's approach to the problem?

Mr. JUDYCKI. Yes, it is. And we have an effort under way right now to develop a system, a national system architecture for IVHS; and it is absolutely critical, which I think Dean alluded to earlier in the day, for us to be competitive in this in the country as we move out into the future.

The standards which will follow would presumably be voluntary standards which would meet the system architecture. Presumably, if the system architecture is developed quickly enough over the next three or four years, then we would be able to allow competition and at the same time not end up with a VHS-Betamax situation with IVHS technology also.

There are a couple of areas that are very important for us to be out in front of as this system architecture initiative is under way, and one is AVI, automatic vehicle identification, which is now being used around the country for toll collection.

The technology is there as well as a lot of interest as to how those standards are going to be developed. California is developing some standards now; so are New York and New Jersey.

The other areas, map databases—once you move information into the vehicle, it is very important that we think soon about what system architecture we are going to apply in this country for those purposes. But that is the heart of the issue nationally as to how this program moves, ability to develop a system architecture that will allow competition by our industry for this whole arena.

Mr. CARR. When you say "architecture," that gives me pause because "architecture" to me is confining. Maybe we are talking different things here.

An "architecture" to me in the computer world is the IBM PC. Well, it turns out that there is another very successful, and I think a competing architecture, if you will, and that is the Apple MacIntosh to the IBM PC. I don't even want to get to the point of choosing between those two.

We had an Army procurement that specified the architecture of the IBM PC for ordinary platoon level purchases; and the people from Apple said, hey, what about us? You know, we can do word processing, too. And there is activity, there are communications protocols that you can mandate between IBM and—you are not talking about that architecture, are you?

Mr. JUDYCKI. "Architecture" is really a framework, and I guess the analogy that I would use is your stereo system, where you can go out and buy stereo components. No matter who makes them, they all fit; and no matter if you buy a CD player today, it will work with your receiver, that you bought 20 years ago possibly.

Mr. CARR. That is a bad example, because the premise of connectivity of stereo equipment in days of old was always based on the notion that it was all going to be analog, but that has now even disappeared. I can show you stereo equipment that won't work with other equipment because one is analog and one is digital and you have to buy some kind of a box to get from one to the other. And we don't want to have that.

The other thing is, it seems to me, our interest as a Federal establishment is that ultimately we should want—we may not want it tomorrow, but we should want the potential to collect data from this system that is being deployed out there, because one of the areas where we have had such difficulty in analyzing rates of return between modes is that there is always a paucity of data on individual automobile trips.

And so it would seem to me commensurate with your HPMS and your HERS and looking toward a system like we have in the air side with flow control and the rest of it, we would be interested in collecting data. It would seem we ought to be interested in the communications protocols.

All of these devices have to talk with one another. We don't care, do we, what the architecture is of that computer—that computer versus that computer? We want to make sure they can talk. That means you have to specify a bit stream, don't you, have to create some kind of a protocol where everybody agrees that the first bit denotes some equipment identifier; the second bit denotes some level of—that identifies the manufacturer of the equipment; that the third bit identifies the first element of data and so on and so forth. And then the fourth bit tells you that that is the end of the data, and you might have a couple of more bits.

Don't you have to sort of slice the bit stream? Isn't that what we are talking about? Isn't that what needs to be done?

Mr. JUDYCKI. The communication is fundamental, and yes, you are exactly right.

Using the toll collection, we all want to be able to drive from one area of the country to another and be able to use the automatic toll collection facility. The architecture should assure that we can do that without constraining competition between vendors as to how they supply the equipment to assure that it happens.

And system architecture is really the framework within which standards are developed. And the communications standards and framework are going to be critical to that happening just as you are suggesting.

Mr. CARR. Is there a committee that is looking at the communications and trying to define the bit stream?

Mr. JUDYCKI. The IVHS America does have a standards and protocol committee and they are looking at those technical issues, as to how you develop protocols for communication, for instance.

In addition to that, we have a $20 million initiative under way in Federal highways that will be leading towards a request for a proposal to competitively get teams, partnerships, on board over the next number of months to establish and start developing architectures that we can consider for the future.

Those teams will put together IVHS system architectures that will then, through a consensus process with the transportation users, come down to what is the best architecture nationally in this country for us to pursue. But that is being done in conjunction——

Mr. CARR. Again, I am a little worried about the use of use of the word "architecture." Are you talking about chip architecture?

Mr. JUDYCKI. No.

Mr. CARLSON. Again, I see a little bit of problem in communication. The word "architecture" to us is broader than just the hardwired bit-to-bit thing. We also have to deal with the FCC on radio communication frequencies. We have got other things that are involved here that go beyond that. So I think "architecture" is just a term of art that basically covers all those things where these various types of activities are going to have to interrelate.

It is more than just the communication system. I think that is true.

Mr. CLEMENTS. For example, in mapping, Mr. Chairman, you want to have a mapping system that keeps you in the lane.

There are going to be some mapping protocols, just like USGS has mapping protocols and diagrammatic standards and so forth. As you drive something like the project in Orlando, TravTek, it may become standard in the industry. Everybody's equipment can play in that, but you need common maps and common diagrams and common communications systems.

LEGAL ISSUES FACING IVHS

Mr. CARR. This gets to another issue. I am sorry I wasn't able to hear the presentation of the young woman who gave it at IVHS America. Apparently she was giving her presentation while we were holding our hearings. Apparently there are a number of legal issues relating to development and deployment, including tort and product liability matters, but also privacy and intellectual property issues.

Can you talk about some of those challenges?

Mr. **Judycki.** Yes, and we are going to be fully exploring those challenges as part of a report that is due to the Congress at the end of this year, a nontechnical issues report on IVHS.

There are a number of legal issues. IVHS America has a legal issues committee that has produced a white paper exploring a number of nontechnical and legal issues, including privacy and antitrust, as well as regulations and procurement.

The intellectual property issue that you mentioned is one that comes to the top of the list, along with the procurement issues that seem to prevalently just come up again and again and surface as those that we need to explore more completely. There has been a Federal Register request for comment on this, leading to the report that we will be putting together—that the Department will be putting together in conjunction with IVHS America at the end of the year.

IVHS OBJECTIVES

Mr. **Carr.** At our IVHS hearing the other day, Dr. Thomas Horan of George Mason University made the following observation, and I quote: "Recent modeling exercises, particularly in the air quality area, have highlighted the difficulty of achieving overall regional gains, and consequently, suggest estimations of near-term IVHS objectives should be viewed with substantial caution."

Any comment about his remarks?

Mr. **Carlson.** He obviously is picking some things that we are concerned about as well, and we are working with the contractor we have for support, Mitre Corporation, to look into those kinds of issues. I don't know that I would share his view that we should be overly cautious about the benefits that we hope to get out of IVHS; but I think it is safe to say that nobody really knows yet. We know what we can do with such things as automated traffic control systems, but we don't know what kind of benefits, yet, are going to come out of driver information systems.

Our first really successful and longer situation was TravTek in Orlando, and we are in the process of analyzing and evaluating the data that came out of it; and what we see so far looks pretty positive. So I am hopeful that we are going to be able to address that with our regular evaluation.

Mr. **Judycki.** I might mention that one of the significant building blocks to anything that we do in IVHS services downstream are traffic management systems, as you are well aware. We do have some very good information around the country, from Los Angeles to Minnesota and other areas, where they have evaluated the impacts of effective traffic management systems at the city level in metropolitan areas.

In Los Angeles they point to the fact that their commuter time was cut by 50,000 hours and that they have significantly reduced emissions, as well as fuel consumption and delays. Those are measured and based upon applications of technologies that are now integrated in serving a metropolitan area such as Los Angeles.

Mr. **Carr.** As Dr. Horan talked about, we need to concern ourselves with the evaluation. There are a lot of claims made for IVHS, and we want to think that some of those things are true, but

I really believe we ought to be evaluating and evaluating the evaluation and make sure the evaluation is honest. I think in all these areas we get promotional things all the time: This will cure the common cold.

Mr. CLEMENTS. We have a two-pronged program. All the implementation and the major emphasis in getting these field tests going is in Denny's shop. We have an extensive R&D component of that which comes under Denny's direction and my direction, which attempts to evaluate those, while again not declaring winners and losers.

But Denny just had a major study done by an outside group—and I like the results of that study—that really said the Federal role should be one of managing the process, not managing the products. We should be evaluating the product, but we are really managing process and making sure, to overuse the word, that the "architecture" that we have been talking about really works well together, without foreclosing opportunities for the private sector.

I guess the research component would, hopefully, evaluate the accuracy of the claims and that, Denny, your side of the aisle will develop all the implementation strategies and manage the process.

Mr. JUDYCKI. On evaluation, we are very concerned that all of us that are advocates of IVHS take a look at, and certainly a fair look at, what the benefits are as the program matures and as we implement technologies. We do plan on bringing a contractor on to assist us in just the task of evaluating the deployment of IVHS technologies; and we think that that is absolutely critical.

I agree 100 percent with where you are focusing your comments, Congressman.

IVHS–LOCAL GOVERNMENTS

Mr. CARR. Another area that was highlighted in our hearing has to do with the advanced traffic management systems. It was pointed out that in 1990 FHWA concluded that 22 of 24 systems sampled were not operated in a satisfactory manner from the standpoint of operation and maintenance; and those systems were not as complex as the one we potentially will deploy under IVHS. And in that report, your agency concluded that "funding for operations and maintenance is usually inadequate to meet even the minimal requirements." Potentially could this be the Achilles' tendon of the IVHS program?

You put all this wonderful stuff out there, build a fairly grandiose traffic management system, but then the local governments can't afford to operate it.

Just as we have paid a lot of attention in this Committee on the transit side to trying not to build and make capital investments where there is no dedicated local source of operating revenues, until we knew what we were building was going to be successfully operated, should we be making the same kind of requirement for IVHS? Should we be saying, we will give you money, capital money, for doing all of this, but first you must take a quarter cent of the sales tax and dedicate it to operating your system?

Mr. CARLSON. Certainly that would be one way of trying to get the local governments to have the money to do it. On the other hand, with the Clean Air Act requirements and the fact that a lot of these traffic management systems are going to aid in pollution, as I think Mr. Rowe pointed out at that hearing, there is certainly going to be an incentive for local governments to do a decent job of maintaining and operating these systems.

I think that in the past some of the systems that I am familiar with were started before this technology got to be more than what I would call, your comment, a "dazzling system," and after someone else might have taken over. As a traffic engineer, you might not have been interested in that dazzle and let it go I am hopeful that we are not going to have to look into some sort of a category of funds to do IVHS activities.

If we find that we are running into difficulties under the Clean Air Act, that we can't meet it without making sure that these systems will be operated properly, we may find ourselves in a position of having to come back to the authorizing committee to say, we need a category to make sure that this system is maintained-or on the contrary, some sort of a sanction, although I would tell you that sanctions are becoming less effective.

Mr. JUDYCKI. I might mention, Mr. Chairman, that Ed Rowe chaired that expert panel for us that gave us that report with those recommendations, and so they certainly have a lot of credibility with us.

I would also mention that I think that we have all seen that operational applications have increased in priority at the State and the local level. And ISTEA did give us some increasing flexibility.

For instance, surface transportation funds, the STP funds had been used for operating systems. And that change was significant, certainly significant to what the local jurisdictions that have a priority on operational activities can do. Initial highway system funds can be used for systems operations for a two-year period for these types of systems, but STP funds can be used for an undetermined length of time.

IVHS PRIORITIES

Mr. CARR. Well, we have a number of other questions on IVHS that we will ask for the record in the interests of time.

There are currently hundreds of IVHS projects planned or under way. As more money and emphasis are devoted to the IVHS effort, undoubtedly the number of projects will grow. The Federal IVHS Program Recommendations prepared by IVHS America already contain priorities by various categories for many projects.

What can you tell us about the process used by IVHS America in the establishment of the priorities reflected in the program recommendations document?

[The information follows:]

The process was essentially a bottoms-up process. IVHS AMERICA solicited project ideas from the volunteers that constitute their technical committees. In generating these ideas, these technical experts were guided by IVHS AMERICA's Strategic Plan for Intelligent Vehicle-Highway Systems in the United States and information on DOT IVHS program activities. The recommendations received from the committees were reconciled and prioritized to the extent possible within the time available to do that. This was done by a select group of national IVHS program experts appointed by IVHS AMERICA. The priorities were discussed and approved by the IVHS AMERICA Program Planning Committee, the Coordinating Council, and the Board of Directors. We believe that there were many excellent recommendations and these are being reflected in the DOT IVHS program, although not necessarily on a one-to-one project basis.

We are also now working with IVHS AMERICA to develop a National Program Plan that will better focus IVHS AMERICA's annual program advice in the future. Instead of generating a list of project ideas, we will, in the future, be asking IVHS AMERICA to review and comment on DOT annual program plans and priorities within the context of the National Program Plan. This will assure that the DOT IVHS program remains focused on achieving national program goals and objectives and responsive to non-Federally sponsored program activities.

Mr. CARR. What criteria do you think the Committee should use for IVHS demonstration project requests?

[The information follows:]

While still preferring that there be none, we understand the political reality that earmarking will likely continue. We would urge that the following criteria be used in guiding earmarking requests:

1. There should be no earmarking of annually appropriated funds or ISTEA funds outside the Corridors Program. This will assure that we have the necessary flexibility to pursue important program areas.
2. Funds should not be earmarked for specific universities. This violates the competitive nature of the procurement process and reduces opportunities for other universities to participate in the program.
3. Some Corridor Program funds should be earmarked each year to accommodate support for a competitive solicitation to address specific program needs. This will ensure that, over the years, all locations in the country have an opportunity to participate in the program.
4. Earmarking must adhere to the funding rules governing the Corridors Program established in the ISTEA (at least half must be provided to Priority Corridor locations, 5% of the Corridor Program funds must be spent on high-risk projects).
5. IVHS funds should not be used to support projects that would otherwise qualify for regular Federal-aid funding.
6. Earmarking should account for IVHS program needs as defined in the National IVHS Program Plan (now under development), and the ability of earmarked locations to participate in projects that address these needs.

Mr. CARR. Were uniform criteria used in the establishment of the priorities reflected in the program recommendations document?

[The information follows:]

Ideas for the annual program recommendations were generated by the IVHS AMERICA technical committees. The recommendations from the committees were prioritized, to the extent possible within the time available, by a group of national IVHS program experts appointed by IVHS AMERICA. The establishment of priorities was guided by the IVHS AMERICA Strategic Plan for Intelligent Vehicle Highway Systems in the United States and information on DOT IVHS program activities. These priorities were then discussed and approved by the IVHS AMERICA Program Planning Committee, the Coordinating Council, and the Board of Directors.

We are currently working with IVHS AMERICA to develop a National Program Plan that will better focus IVHS AMERICA's annual program advice in the future. The National Program Plan will lay out the specific activities required to reach deployment for a set of IVHS services. Each year we will be asking IVHS AMERICA to review and comment on DOT IVHS program plans within the context of the National Program Plan. This will ensure that the program recommendations and priorities provided by IVHS AMERICA are focused on achieving national IVHS program goals and objectives and that the DOT IVHS program is responsive to non-Federally sponsored program activities.

AUTOMATED HIGHWAY SYSTEMS

Mr. CARR. What are the current cost estimates to implement a fully operational demonstration of an automated highway system?

[The information follows:]

The very preliminary estimate of funding for FY94–97 that is required to demonstrate a prototype Automated Highway System (AHS) in 1997 is $180 million. Assuming a cost split between Federal funds and non-Federal funds is 80/20, the Federal share of the funding would be $145 million and the portion from the private sector and State and local governments would be $35 million. Firmer estimates will be based on the particular system configuration which is eventually selected for demonstration and the type and extent of a "test facility" required to support the demonstration. It should be noted these relate to the 1997 demonstration and are not for a subsequent operational test in a longer term, real world setting.

Mr. CARR. Will you be able to meet the 1997 deadline specified in ISTEA for having a fully operational system?

[The information follows:]

The DOT is confident that a prototype AHS can be successfully demonstrated in 1997 if we can establish by late 1993 or early 1994 the national AHS public/private consortium which will carry out the program. Again, it is noted that the 1997 goal is designed for a test track demonstration of a fully automated system.

Mr. CARR. What do you see as the biggest hurdles to overcome if the 1997 date is to be attained?

[The information follows:]

Adequate and consistent funding is clearly a major hurdle to demonstrating a prototype in 1997. The President's "Rebuild America" initiative includes funding for the AHS program and this will be essential to this program's progress. A second hurdle is securing the full support and participation of key stakeholders, including the highway and automobile industry. Our objective is to form a public/private consortium of these stakeholders this year to guide and help fund the prototype demonstration. Several other issues that present potential hurdles, such as human factors and liability, are being studied currently and mitigating measures will be defined.

IVHS AUTOMATED TRAFFIC SURVEILLANCE AND CONTROL SYSTEMS

Mr. CARR. During our IVHS hearing last week held in conjunction with the IVHS America annual convention, we heard from the former manager of Los Angeles' DOT concerning the automated traffic surveillance and control system. He was talking about the need for $256 million for 3,800 intersections which equates to more that $67,000 per intersection. And he cited an evaluation that indicates benefits exceed costs by a factor of 38 to 1. Does that mean that over time, the benefits per intersection total more than $2.5 million? Is it possible that the investment of $256 million really will yield benefits of more than $9.7 billion?

[The information follows:]

The city of Los Angeles' Advanced Traffic Management System, known as Automated Traffic Surveillance And Control System (ATSAC), has produced a benefit to cost ratio of 38 to 1. It should be noted that the benefits are primarily for motorists in the form of reduced stops, delay and fuel consumption. The benefits to the city are in the form of a more reliable system experiencing less failures. In this context, it is quite reasonable to expect $9.7 billion in benefits over the system cost of $256 million.

Mr. CARR. How reliable is the ATSAC system? What are the annual operation and maintenance costs for ATSAC?

[The information follows:]

The ATSAC system is extremely reliable. The availability of the computer system is almost 100%, primarily due to continuous upgrades which are made to prevent the equipment from becoming obsolete, and a yearly program of preventive maintenance to the computer and the peripherals. The availability of the field hardware is almost 100%. A majority of the failures encountered so far has been the leased voice grade circuits, which the city is replacing with dedicated communication equipment. The yearly costs to operate and maintain the systems are as follows: Maintenance—$3.96 million, Operation—$14.4 million.

METROPOLITAN PLANNING ORGANIZATIONS

Mr. CARR. Dr. Horan of George Mason University noted that "an area which deserves attention is understanding the role of IVHS within the context of regional governance." Please give us your thinking on this issue, and especially indicate what you believe the role of the metropolitan planning organizations is, and what it should be ideally.

[The information follows:]

Under the ISTEA the primary institutional responsibilities of metropolitan planning organizations (MPOs) are the planning and programming of transportation systems and improvements. The primary emphasis is planning since only about one third of all MPOs, in the transportation management areas, have project selection authority. The MPOs with project selection authority can influence but not actually implement projects except in rare cases. Hence, the MPOs potential role in the fostering of innovative technologies (e.g., IVHS) is in developing a regional consensus and framework that will support implementation through State or local agencies.

In a broader context, many MPOs are not equipped or authorized to deal with policy trade-offs between key areas (e.g. land use, economic development, housing, employment, etc.). While unique instances of MPOs with multi-function responsibilities exist, for the most part these agencies are intergovernmental forums which provide a mechanism for local governments, the state and modal operations to achieve regional decisions regarding priorities and goals for regional transportation improvements. Responsibility for implementing resultant projects and/or supporting decisions in related policy areas rests with other governmental entities.

In this context, the metropolitan planning organization (MPO) has two significant roles to play in the development of IVHS programs in our urban areas:

1. The MPO plays a key role in ensuring that the requirements of Clean Air Act Amendments of 1990 (CAA) and of the Intermodal Surface Transportation Assistance Act of 1991 (ISTEA) are followed in the development of IVHS plans, programs, and projects. IVHS planning activities are included in the unified planning work program, prepared for the metropolitan area by the MPO, to ensure that they are integrated into the overall transportation planning process and the results are considered in the development of plans and programs for the metropolitan area.

IVHS projects which result after the planning is completed, that focus on a particular application, location, or technology, are subject to the CAAA conformity requirements and need to be included in both the metropolitan and statewide transportation improvement programs (TIP's). The projects also need to be consistent with the metropolitan and statewide transportation plans. Both the metropolitan TIP and the transportation plan are documents that the MPO is required to prepare.

2. For successful IVHS projects to be planned, developed, implemented, and supported, partnerships must be established between the public and private sectors. Because it represents the regional planning body, the MPO can bring together both the public and private sectors for success in developing IVHS projects. Cities where this activity is taking place include Philadelphia, San Francisco, and Chicago.

IVHS NATIONAL PROGRAM

Mr. CARR. The Benefits, Evaluation and Cost Committee of IVHS America has expressed reservations about the priority on individual projects compared to overall evaluation planning and performance criteria. Others have expressed similar reservations that the operational tests are getting ahead of the ability of the national program to provide guidance on how a particular test should fit overall national evaluation needs. How serious an issue is this? Do you think we need a better framework and better definition of long-term integration requirements before we proceed too quickly with individual research and development and operational testing?

[The information follows:]

The issues raised in your question are why we are undertaking the development of a National IVHS Program Plan and a national IVHS architecture. The Plan will ensure that individual projects remain responsive to overall program needs aimed at achieving program goals and objectives. Selection of a national architecture will provide a system framework under which further development and deployment of IVHS user services can occur.

We are very much opposed to slowing down individual research and development and operational testing project activity. We have been able to build much support for the program and involve key public and private sector organizations through these projects. More importantly, we believe we have advanced our knowledge in a number of program areas. This will help define future program activities that become part of the National Program Plan, and also provide important information to the system architecture effort.

IVHS—FOREIGN COMPETITION

Mr. CARR. The United States was a late starter getting into the IVHS field. What foreign markets do you foresee for technologies employed in IVHS projects? Who are the biggest international competitors for IVHS products? How much government assistance have these competitors received?

[The information follows:]

IVHS will, like most things in today's world, be an international market, and the U.S. IVHS program is certainly in competition with the Europeans and Japanese.

It is difficult to compare the Japanese IVHS program to the U.S. program. First they have a number of programs sponsored by various associations. These associations are often, in turn, sponsored by various agencies of the National Government. Some of these programs appear to be duplicative and not always in harmony with each other—there is no IVHS Strategic Plan.

We believe that we have a much broader and deeper research, development and testing program. For example, the Japanese do not appear to have pursued commercial vehicle operations (CVO) systems to the extent we have. We would also appear to have an edge, thanks to Defense related activities, in many enabling technologies.

In Europe, two programs have been in place since the late 1980's that have advanced the development of IVHS products and services. One of these is the PROMETHEUS program, which is a pre-competitive R&D program. It was founded by the European automobile companies and supported by national governments. It largely focused on examining technologies that could support services that could be deployed autonomously in vehicles, such as collision avoidance and adaptive cruise control. Some of these may be introduce in the marketplace over the next few model years.

The second is the DRIVE program, which is supported by the European Community with financial participation by project participants, both public and private. It focuses on what we classify as advanced traffic management, traveler information and commercial vehicle operations services. The DRIVE program is in its second phase. The first phase featured a number of research and development efforts, the second phase, now underway, features demonstrations, or what we call operational tests, of results form the first phase.

The Europeans and Japanese have been very successful in initiating many projects that involve many different organizations, public and private. In contrast to the U.S., however, both are taking an approach that still leaves unresolved such key questions as how a broad array of services will be integrated under a system concept and coordinated across international boundaries. We believe that the top-down systems approach we are taking, involving consensus building through IVHS AMERICA, early development of a unified public/private program plan and system architecture and standards, and resolution of key institutional and legal issues, will facilitate creation of markets and deployment of IVHS earlier than the European and Japanese bottoms-up approach.

IVHS—DEFENSE CONVERSION

Mr. CARR. One hears a lot these days about defense conversion. In your opinion, how likely is it that there will be widespread involvement of companies currently or formerly doing defense work transitioning into IVHS activities? Do you have any specific recommendations for actions you think the Federal Government should take to facilitate defense conversion activities?

[The information follows:]

FHWA has been working with several defense technology agencies and laboratories to share information on our respective programs and to identify technology needs of mutual interest to IVHS and defense. Our discussions resulted in the identification of the vehicle technology area for IVHS which has been included in the "Program Information Package for Defense Technology Conversion, Reinvestment, and Transition Assistance" that was released by DOD's Advanced Research Projects Agency (ARPA) when the President announced the program on March 11, 1993. The DOD/ARPA category for vehicle technology, which includes electronics for both vehicles and intelligent highway infrastructure, is one of eleven areas identified by the Administration for the defense technology conversion program.

Numerous defense industry representatives and defense industry federal laboratories have shown a strong interest in technology conversion to IVHS. This has been evidenced by their proposals to FHWA in response to our Request for Proposals for IVHS operational tests and in response to our Broad Agency Announcement for precursor studies for the Automated Highway System prototype. Their interest has also been shown by their contacts to ARPA and DOT following the President's announcement and by their involvement in IVHS AMERICA.

A portion of the additional IVHS funding proposed in the President's Rebuild America Initiative is intended for accelerated technology development and applications of other defense-related technologies. This additional funding will enable DOT to participate with other federal agencies and private sector companies in partnership arrangements to facilitate defense conversion for IVHS.

Mr. CARR. Several of the participants at the IVHS America convention last week were Japanese. Especially since the Japanese are likely to be major competitors of ours in the marketing of IVHS technologies, is there reason for concern with the level of their involvement in organizations such as IVHS America?

[The information follows:]

IVHS AMERICA gave careful consideration to the inclusion of International organizations and invited such participation in the belief that there would be mutual benefits. From a technical standpoint this has proven to be the case.

At the pre-competitive stage, the Japanese have been open in IVHS matters. The FHWA has a formal agreement with the Public Works Research Institute of the Ministry of Construction to exchange research and development information in several highway-related areas, including IVHS. Several informative technical papers were presented by Japanese participants at the IVHS AMERICA annual meeting. Several U.S. delegations have visited Japan and have been briefed by various Japanese organizations. In addition, IVHS AMERICA is currently hosting two representatives of Japanese private companies for a year to further the exchange of pre-competitive information between the Japanese and U.S. on IVHS programs. The Japanese have invited our participation in various IVHS activities and indeed Etak Inc., General Motors Japan Limited, and Motorola are members of the Japanese Vehicle Information and Communication System (VICS) Promotion Council

Mr. CARR. What limitations or restrictions are placed on IVHS technologies developed at least partly with Federal funds?

[The information follows:]

Laws allow the Federal government to license products developed at least partly with Federal funds. This license is very narrow, restricting application to Federal entities. The license does not, for example, permit the FHWA to distribute products developed by a private organization under contract or agreement to the Federal government to State and local government agencies. Any rights the Federal government desires beyond these must be negotiated and detailed as part of a contract or partnership agreement.

Products produced under IVHS contracts or partnership agreements will generally be patented or copyrighted by one or more of the private organizations involved in the particular contract or partnership agreement. It will, therefore, be their responsibility to market and distribute these nationally and internationally, and to exercise prudence in protecting what they consider to be proprietary information.

The DOT will generally negotiate to make available research and testing results that are determined to be non-proprietary in nature.

Mr. CARR. Do you know the amount of financial support the Government of Japan has provided to Japanese companies in their development of IVHS-like technologies?

[The information follows:]

Data is not available on the amount of financial support the government of Japan has provided to Japanese companies in the development of IVHS technologies. Some five Japanese ministries are involved in IVHS activities including the Ministry of Construction, Ministry of Posts and Telecommunications, and the Ministry of International Trade and Industry.

Three of these agencies have created not-for-profit associations for the explicit purpose of carrying out the collaborative activity in a manner which accommodates the bureaucratic constraints of the agencies themselves. Characteristically, each association has managing direction and technical staffing by individuals who had originally served within the corresponding parent agency. These associations are funded through fees paid by industrial members with subsidy from the sponsoring agency.[1]

The extent of the subsidies is not known nor is the extent of the leveraging accomplished by the involvement of the respective ministries.

Mr. CARR. Does the Government of Japan place any restrictions on the level of involvement of American firms in Japan that are trying to develop or penetrate the Japanese IVHS market?

[The information follows:]

IVHS AMERICA gave careful consideration to the inclusion of International organizations and invited such participation in the belief that there would be mutual benefits. From a technical standpoint this has proven to be the case.

At the pre-competitive stage, the Japanese have been open in IVHS matters. The FHWA has a formal agreement with the Public Works Research Institute of the Ministry of Construction to exchange research and development information in several highway-related areas, including IVHS. Several informative technical papers were presented by Japanese participants at the IVHS AMERICA annual meeting. Several U.S. delegations have visited Japan and have been briefed by various Japanese organizations. In addition, IVHS AMERICA is currently hosting two representatives of Japanese private companies for a year to further the exchange of precompetitive information between the Japanese and U.S. on IVHS programs. The Japanese have invited our participation in various IVHS activities and indeed Etak Inc., General Motors Japan Limited, and Motorola are members of the Japanese Vehicle Information and Communication System (VICS) Promotion Council.

IVHS—COMMERCIAL VEHICLES

Mr. CARR. Another witness at last week's hearing states that the most difficult barrier for IVHS in the commercial vehicles' operations area is that the various agencies all want to go their own way. Do you agree that potentially this is a very serious problem? What specific recommendations do you have for the Congress, the Department of Transportation, and IVHS America to address this issue?

[The information follows:]

Whenever one deals with many agencies there is always a potential for problems. Each agency has their procedures and sometimes these may be in direct contrast to the procedures of others. One way to lessen these barriers is to bring various agency personnel together so they can discuss the how and why of their processes and can attempt to find commonalities. The US DOT has recognized that institutional issues should be resolved in order to facilitate IVHS–CVO deployment and has taken steps to resolve potential barriers.

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[1] Ervin, Robert D., An American Observation of IVHS in Japan, University of Michigan, 1991.

In September of 1991 the US DOT offered interested states $50,000 each to assist them in performing an institutional issues study. So far, 47 of the fifty states have begun these efforts with some states choosing to perform the studies individually while others formed consortia that are looking not only at issues within individual states but among states as well. These studies are bringing all agencies dealing with motor carriers within a state together to discuss IVHS–CVO applications and the barriers to their implementation. States are examining their current procedures, describing how transparent borders and electronic driver/vehicle safety inspections concepts could be applied to current processes, identifying institution opportunities that would encourage application of IVHS technologies and preparing a report of their findings. In some cases, these studies have brought agencies together that rarely interacted in the past.

As these studies near completion, we are finding that states are thinking of ways to use technology to make their operations more efficient and are realizing that government working with industry can improve the productivity of the U.S. The US DOT plans to fold these individual and consortia efforts into the formation of a national commercial vehicle network.

IVHS PRIORITIES

Mr. Carr. The issue was also raised that accelerated funding for IVHS activities might lead to products without markets. This could be a very significant point. Just because this country has the capability to do something doesn't necessarily mean it should be done. In your opinion, what areas are the ones most likely to have near-term economic application, and what technologies offer the least promise?

[The information follows:]

The establishment of national commercial vehicle IVHS services is where we believe that the first significant benefits from deployment of IVHS will be realized. Two major commercial vehicle projects are already underway. These are the HELP/Crescent project along I–5 on the west coast and southwest portions of the country, and Advantage I–75, which runs through the midwest from Canada to Florida. The beginnings of a national commercial vehicle program would be accomplished by starting another initiative along I–80, which stretches across the country from east to west and intersects with both HELP/Crescent and Advantage I–75. Included in this program would be services such as electronic transfer of information about weights and credentials that will allow properly-equipped and compliant vehicles to bypass weigh stations and ports of entry at prevailing speeds. Also included would be electronic checking of driver and vehicle compliance with safety requirements at prevailing speeds to avoid time-consuming roadside safety inspections. Automation of mileage and fuel purchase recordkeeping would also be accomplished.

We believe that the potential for near-term economic benefits from a commercial vehicle IVHS program is significant. In fact, one study estimates that if 30 percent of the trucks in an average state were equipped with transponders, there would be a $50 million savings to the motor carrier industry over a 20 year period.

IVHS—PROCUREMENT ISSUES

Mr. Carr. The IVHS Strategic Plan indicates that changes may need to be made in DOT's procurement practices to accommodate the public/private partnerships necessary for IVHS development and deployment. Do you agree with this observation? What specifically might need to be changed?

[The information follows:]

One of the primary concerns of industries participating, or considering participating, in the IVHS program is that current Federal and State procurement practices are unsatisfactory to the unique relationship involved in public/private partnerships. At the request of the Department of Transportation, IVHS AMERICA's Legal Issues Committee has provided advice on procurement issues in IVHS development and deployment. Some of the major concerns discussed in IVHS AMERICA's report are the distribution of intellectual property rights, inconsistent and conflicting procurement requirements among different governmental entities, and general inexperience with high technology procurements. For most of these issues, IVHS AMERICA recommends education on government procurement, not changes to procurement laws, to address the major concerns of those industries interested in participating in IVHS. In addition, clear policy guidelines on such issues as the extent of government's interest in intellectual property rights and cost accounting requirements would greatly serve to alleviate some of the concerns over government procurement.

The Department of Transportation has undertaken and is considering a number of initiatives to address procurement issues including coordinating workshops where those entities that have successfully implemented IVHS public/private partnerships can inform those who are new to the process on the finer points of this unique procurement arrangement; developing a policy statement on intellectual property; researching both Federal and state procurement laws to determine major challenges to public/private partnerships and to develop recommendations to address these challenges; and providing clear guidelines on the extent of cost accounting requirements.

METROPOLITAN PLANNING FUNDING FORMULAS

Mr. CARR. It is a little after 2 o'clock and I have been sitting in this chair now for five hours straight with no break. We are not done yet. Maybe we can speed along a little bit here.

In 1993, the Committee report concurred with the FHWA on the need for development of new funding formulas for metropolitan planning as expressed in interim guidance. Last month, FHWA issued a notice of proposed rulemaking on this manner.

Could you bring us up to date on this issue and briefly summarize the thrust of the proposed rule? And when do you hope to get to a final rule?

Mr. CARLSON. Our comment period will close on that rule, as well as the management system rule, on May 3. We are not, in that rule, attempting to change the funding parameters in ISTEA in any way, but to make the best possible use of the money that is made available.

We have another study going with GAO that is going to look into the allocation formulas. There are other ways that that might be handled.

Mr. CARR. I am not sure where to go, from what you said. Our committee report expressed a need to develop new funding formulas for the MPOs. You are doing some rules on this. What was your notice of proposed rulemaking about?

Mr. CARLSON. Basically it is to outline the actions that have to be taken to have a viable planning process in an urbanized area. The funding that is in ISTEA for metropolitan planning or urban planning is, we think, in most cases adequate to the task. I am not sure whether we are talking about program funds here or planning funds, but the planning funds go to the metropolitan area through the States.

Mr. CARR. Planning funds.

Mr. CARLSON. Okay, I was having trouble with that.

Mr. CARR. My mistake, planning funds.

Mr. CARLSON. We are getting a lot of concern expressed on the part of some metropolitan areas on the availability of planning funds and how they ought to be used with local agencies. It gets into the same issue as the makeup of metropolitan areas. We have some areas like Orange County and Los Angeles County who don't know if they want to be one metropolitan area or two metropolitan areas. That has an impact on how planning funds are divided up.

I don't know of any rule that would have an impact on the money received by the entire metropolitan area. I don't think we are going to do that.

Mr. CARR. I understand. We are talking about planning funds, not program money.

Mr. CARLSON. Other than the planning funds made available to metropolitan areas through ISTEA, I don't think we would have anything in our rule that speaks to that issue.

We are going to have a report on distribution of funds to MPSs, but whether or not it continues any recommendations on change, I don't know, but the draft report we hope to have ready by June 1, 1993. That is a requirement coming out of the Appropriations Act.

Mr. CARR. Right. Just reading from the summary of the proposed rule, it says, and I am quoting, "FHWA and FTA are jointly proposing to replace the planning regulations governing the development of transportation plans and programs in urbanized areas."

Then it goes on to say that you are requesting comments, et cetera, again, picking up the quote "governing metropolitan transportation planning and thus requires modification of existing implementing regulations. By implementing the law, these regulations will ensure the eligibility of the metropolitan area for Federal transportation funds."

The issue we are trying to explore is the way the added MPO authority, especially with regard to clean air provisions, may impact project planning, investment and construction.

Mr. CARLSON. I am not sure that we are clear on the question. I apologize for that but I am not positive we are clear. Basically the metropolitan planning regulation that we put on the table is not one that is going to drive any changes in either the planning funding or—except for the process they will develop, will drive anything on program funding. If the issue is because of the Clean Air Act amendments, do we have a problem being able to fund the planning that is required? That might be a concern.

Some cities, I think, have represented that concern to us. I think if there is anything that we have missed on that maybe we can give you some indication on the record of what this report might look like that is due in June.

Mr. CARR. Well, let me ask you to work with the staff on this.

Mr. CARLSON. We would be happy to. I am sorry that we are a little bit confused on this one.

Mr. CARR. It is a rather lengthy rule that you have in here.

Mr. CARLSON. Yes. And I have to say that it is somewhat controversial among the States and I think among urban areas, but not regarding funding for planning or even funding for programing. I think there are a lot of concerns about the data requirement and concern about the relationships of different local entities to each other as to how you get to decisions on project selection, et cetera.

MOTOR CARRIER SAFETY

Mr. CARR. Has FHWA entered into a contract with the not-for-profit trucking institute in relation to safety and research for commercial motor vehicles?

Mr. EICHER. Mr. Chairman, in fiscal year 1993 there was about four and a half million dollars that was earmarked for this not-for-profit organization. We are in final negotiations now with the Trucking Research Institute, which is part of the American Trucking Association, to assist us in a number of motor carrier research areas.

Mr. CARR. The Committee last year directed FHWA to solicit for a variety of IVHS projects which would test and assess new institutional arrangements. What has been the response to this directive?

Mr. JUDYCKI. The institutional—that is part of the non-technical study that is going on for the record that we will be preparing by the end of the year. The solicitation was for an array of institutional issues that will feed into that report, Mr. Chairman. We have about $8 million in the institutional program this next year for the IVHS program.

Mr. CARR. Why hasn't the Office of Motor Carriers submitted the report called for by March 1, 1993, regarding personnel and regulatory backlog, and a report summarizing civil penalty and other enforcement actions?

Mr. EICHER. Mr. Chairman, in fact, we did send you a letter with that material on April 6. Maybe it just has not reached your desk. We will be happy to supply an additional copy for the record for you and your staff.

Mr. CARR. Please send an additional copy. We have not received it.

Again, in the interest of time, there are a number of questions that I have on the motor carrier safety assistance program that we will ask for the record.

MOTOR CARRIER SAFETY ASSISTANCE PROGRAM

Mr. CARR. ISTEA authorizes $65 million in fiscal year 1992 increasing to $90 million in fiscal year 1997 for the Motor Carrier Safety Assistance Program's (MCSAP) mission of reducing the risk of accidents in truck and bus highway transportation. In prior years' appropriations hearings, concern was expressed about the level of roadside inspections and out-of-service rates, among other issues.

What have been ISTEA's major impacts on the MCSAP program in the first year? What action has FHWA taken to assist States in accomplishing the new responsibilities?

[The information follows:]

The activities under the MCSAP are more diversified and include new areas of emphasis such as traffic enforcement, CDL enforcement, hazardous materials inspector training and enforcement as mandated by the ISTEA.

The FHWA has taken action to assist the States by providing MCSAP funds that are being used to:

Assist States in the uploading of NGA accident data. (Currently, 22 States are uploading this information);

Provide training and materials to States in order to enhance uniformity;

Assist MCSAP States in the uploading of safety inspection data onto SAFETYNET. (All States are currently uploading roadside inspection data into SAFETYNET);

Continue to provide training of State personnel on drug interdiction activities (DIAP); and

Fund research and development projects, including innovative brake testing devices, pen based computers, etc. that will improve the efficiency of roadside inspection activities so that more emphasis may be placed on ISTEA mandated activities.

SAFETYNET

Mr. Carr. What progress and improvements have been made on the inspection and accident modules of Safetynet, FHWA's management information system?

[The information follows:]

The inspection module was recently modified to:

Provide information about "repaired at scene" versus "repaired away from scene" in verification of out-of-service defects; and

Add new data items required by ISTEA (e.g., traffic enforcement and size and weight initiatives); and

Use a faster, more reliable communications system for transmitting data to FHWA's mainframe computer and to download national reports; and

To improve the general operation of the system.

Forty-seven MCSAP States are routinely uploading inspection data to FHWA.

The accident module was recently modified to collect all 22 data elements recommended by the National Governors' Association. Modifications were also made to improve the general operation of the system.

Twenty-two MCSAP States are routinely uploading accident data to FHWA.

Mr. Carr. Are there plans to include intrastate accidents in the Safetynet database to get a more complete picture of truck accidents since the 50T requirement has been dropped?

[The information follows:]

The SAFETYNET accident module has recently been changed to upload all accidents that meet the NGA reportability criteria to FHWA. This includes accidents of interstate and intrastate carriers. Both are required by FHWA's interpretation of the January 1, 1994 SAFETYNET participation requirement of ISTEA.

Mr. Carr. What have been the primary problems in getting States to upload accident information in a timely fashion?

[The information follows:]

Some of the problems FHWA has encountered are—

State regulatory, legislative, and budgetary barriers that must be overcome to change State police accident reports to include all 22 NGA accident data elements.

The time required to train State and local police accident investigators.

Difficulty in coordination between the MCSAP agency that must report data to FHWA and the State agency that collects accident reports.

Delays between State and local jurisdictions in processing accident reports.

Mr. Carr. Please explain the progress on other facets of Safetynet, such as the enforcement and driver modules. What are the revised time frames for the completion of these modules?

[The information follows:]

FHWA has developed a microcomputer-based enforcement case tracking system. The field offices use the system to track the dates of all actions related to the processing of each enforcement case as well as the type of violation, counts, and penalties assessed. As cases are settled, this record is electronically transferred to a central database in Headquarters.

FHWA is pursuing several avenues toward including driver data in SAFETYNET. Driver traffic violations have been added to the SAFETYNET inspection module. Violations are tracked when a traffic citation is issued in conjunction with an inspection. FHWA has also initiated a procurement action to provide the capability for Federal and State MCSAP investigators to electronically access CDLIS to check driver CDL license status. FHWA expects to implement this portion of the driver module in 1994.

For the long term future, FHWA also is working with the appropriate National police organizations to add carrier identification (DOT I.D. number) to traffic citations that are issued during a MCSAP inspection. FHWA hopes to have this new information added to SAFETYNET to help identify carriers which may be needed to be reviewed.

METRIC CONVERSION AND TRAFFIC SIGNS

Mr. **Carr**. We have a question on metric conversion which I think you already talked about.

Let me say I would have raised it when Mr. Coleman was here inasmuch as he did raise it, but is it not a fact that to operate a motor vehicle in the United States you have to be able to understand the signs?

Mr. **Carlson**. That is usually part of the driver's test.

Mr. **Carr**. These are not hard signs, I mean stop in Spanish is the same as stop in English.

Mr. **Carlson**. It is the same size and color. In some places they use a different language.

Mr. **Carr**. Do you see any reason for dual language signage?

Mr. **Carlson**. No, although we will make that one option in our advanced proposed rulemaking on conversion to metric when we come out with that.

Mr. **Judycki**. But the issue of symbol signs is well taken. Signs that communicate internationally enhance the understanding of the driver. For instance a stop sign is the same in this country as it is elsewhere; a yield sign is not, necessarily.

Mr. **Carlson**. When we first went to the international symbol signs, in fact, I think it was still permissible to put the English language equivalent up as well. Some which have received wide acceptance, don't have to do that anymore. As more people get used to traveling in different areas, I think we are probably getting a more sophisticated driver and it probably would not be necessary to do the dual signing.

I think the national committee wants to move with somewhat deliberate speed into international symbol signing for some of the reasons that we have already talked about here.

Mr. **Carr**. Well, similarly we have some questions on the monitoring of truck safety, truck weight, and enforcement that we will ask for the record in the interest of time.

COMMERCIAL VEHICLE INFORMATION SYSTEM

Mr. **Carr**. ISTEA contains several provisions to improve transportation data, including creation of a Bureau of Transportation Statistics and the commercial vehicle information system program. It also contains the requirement for a National Academy of Sciences study of DOT data needs. While some of these provisions affect truck accident and travel data directly, all can have an impact on data that has been frequently criticized as inadequate.

What progress can you report on the commercial vehicle information system pilot project, funded by the Motor Carrier Safety Assistance Program at up to $2 million annually?

[The information follows:]

Work on the Commercial Vehicle Information System (CVIS) project is progressing well. Iowa DOT has agreed to serve as the lead State in the CVIS project. A Steering Committee comprised of State and Federal officials has been established to provide oversight and direction to the project. A detailed work plan has been developed and approved by the Steering Committee. An internal study of registration systems mandated under Section 4003 of the ISTEA is currently underway. We expect this study to be completed by mid-August. Four States—Colorado, Nebraska, Indiana, and Oregon, have expressed interest in becoming pilot States. The pilots are expected to begin next year. The Steering Committee has agreed upon the scope of the CVIS and a conceptual design for the system is being developed. A major component of the CVIS will be the development of a Carrier Safety Fitness File that includes standardized data on carrier safety ratings, and MCSAP accident and inspection information. The report to Congress on the feasibility of the project is due January 1, 1995.

Mr. Carr. How many States have the capability to tie their registration files to their records of carrier fitness, MCSAP inspections, and accident records? What actions will be taken to encourage more States to develop this capability?

[The information follows:]

To the best of our knowledge, no State is currently electronically tying their registration files to their records of carrier fitness, MCSAP inspections, and accident records. Through SAFETYNET, a State could check the safety fitness rating of an interstate motor carrier. Currently, such a check would have to be done separately because there is no automated electronic linkage between the State vehicle registration system and the microcensus system. The development and testing of the Commercial Vehicle Information System (CVIS) will provide States with the capability to electronically link vehicle registration with safety fitness ratings, carrier MCSAP accident and inspection summary information.

TRUCK WEIGHT ENFORCEMENT

Mr. Carr. Overweight trucks pose safety hazards and result in more rapid highway and bridge deterioration. The Federal Highway Administration annually reviews state enforcement plans and certifies that State programs are effectively discouraging weight violations. Yet FHWA notes that data from weight-in-motion surveys and weight scale bypass studies indicate that overall as many as 10 to 20 percent of trucks are overweight. Rough estimates of the cost of overloaded trucks suggest that more than $1 billion of damage is done to all federal-aid highways annually. ISTEA includes several provisions that address weight enforcement.

What were the results of FHWA's latest "Overweight Vehicles-Penalties and Permits" report with respect to trucks weighed, divisible load multiple-trip permits issued, and citations issued? How do these figures compare with those of past years?

[The information follows:]

Fiscal year (FY) 1991 State vehicle enforcement reports show that more than 150 million trucks were weighed which is a 1-percent increase over 1990 and a 2-percent increase over 1989. Also during FY 1991, 663,000 citations were issued. The number of citations issued decreased 1 percent from 1990 and 4 percent from 1989. The States issued nearly 161,000 multiple-trip, divisible load permits in 1991. This is a 14-percent increase over 1990 and an 18-percent increase over 1989. In summary:

	Total trucks weighed	Overweight citations issued	Divisible load multiple trip permits issued
Fiscal year:			
1989	146,950,900	692,673	136,267
1990	149,186,594	667,954	140,697
1991	150,427,618	663,204	160,914

Mr. CARR. How many of the trucks were weighed by using the weight-in-motion technology at sites other than existing scales? What are the results of weighing in nontraditional sites?

[The information follows:]

In FY 1991 nearly 2.5 million trucks were weighed on portable and semiportable scales. Because citations are reported by type of violation and not by the type of scale used, we do not know the number of citations by scale type. We believe that most of the WIM weights are from sorter scales located at permanent weigh stations.

Federal regulations States to report the number of trucks weighed by type of scale (permanent, semiportable, or portable), or by scale location.

Mr. CARR. What progress has been made in assessing the damage done by trucks using the divisible load, multiple-trip permits? What steps has FHWA taken to discourage State issuance of divisible load, multiple-trip permits?

[The information follows:]

The FHWA has prepared a draft Advanced Notice of Proposed Rulemaking (ANPRM) with intent to revise its vehicle size and weight monitoring regulation 23 CFR 657. As part of the ANPRM, FHWA intends to ask the following questions:

Has the State determined payment and bridge costs attributed to vehicles operating under special permit? If so, please describe the methodology.

Does the State have a computerized permit data management system that reports permits by type, i.e., singletrip non-divisible load, single trip divisible load, multiple-trip non-divisible load, and multiple-trip divisible load. If so, please describe the program used.

Can the State determine from its permit application system the number of trips made under multiple-trip permits, the length of each trip, or axle weights?

Please provide your ideas on the feasibility of determining payment and bridge, enforcement, and administrative costs of the special permit program.

State as well as other docket responses will be used to determine the need to document the amount of pavement wear due to trucks operating under overweight permits and to develop FHWA policy regarding divisible load, multiple-trip permits. The FHWA will use its annual program review of State enforcement activities and its review of the State's enforcement plans to encourage changes in permit policy.

FHWA believes the information obtained will help assess the damage done by trucks operating under divisible load permits.

AXLE OVERLOADS

Mr. CARR. Studies have shown that overweight axles do considerably more damage to roads and bridges than do trucks that have gross vehicle weight violations. How many States have more severe penalties for axle overloads than for gross weight overloads? Can FHWA use the annual size and weight plan approval process to encourage more attention to this area?

[The information follows:]

The information contained in the most recent "Overweight Vehicles—Penalties and Permits," April 1992, indicates that 4 States (Florida, Iowa, New York, and Utah) have more severe penalties for axle overloads than for gross weight overloads.

The FHWA uses the annual size and weight enforcement plan approval process to encourage improvements to a State's size and weight enforcement program. In addition, we will soon be asking States, through the rulemaking process, to review the basis for current fine structures. We will assess ways to improve the fine structure to account for overweight axles.

Mr. CARR. FHWA noted last year that some States charge as little as $5 for an overweight permit and that this would not even cover the administrative cost of issuing such permits. Does FHWA have any plans to question these States' certifications based on their refusal to charge fees that would cover pavement and bridge damage?

[The information follows:]

The amount of fees or fines imposed traditionally has been a State prerogative. The FHWA is preparing an Advanced Notice of Proposed Rulemaking (ANPRM) with intent to revise its vehicle size and weight monitoring regulation 23 CFR 657. As part of the ANPRM, we intend to ask the following questions: What is the basis for the current overweight permit fee and fine structures? Do the fees and fines include the cost of pavement and bridge wear? What are administrative costs and enforcement costs?

RADAR DETECTORS

Mr. CARR. Now, I just want to finish, I guess, with a question regarding radar/laser detectors. I might have a difference with my friend from Virginia. It seems to me that as long as the radar bans that are used, X and K and all that other stuff are in the public spectrum then people have a right to receive frequencies.

I think that is inherent in the 1934 Federal Communications Act. The assumption that if you receive these signals that you are doing it only for the purpose of trying to avoid your legal responsibility, I think is overdrawn. Are you aware of anything in the 1934 Federal Communications Act that would be in conflict with promulgating rules, telling people they cannot have a device to receive radio frequencies that are in the public spectrum?

Mr. EICHER. After we published the notice of proposed rulemaking back in January of 1992, we had discussions with people at the staff level at the FCC. The result of those discussions were confirmed in a letter from the then highway administrator to the Chairman of FCC that they had no problem with the notice of proposed rulemaking to ban the radar detectors in commerce vehicles, and, secondly, that they were not going to submit any comments for the record in the docket. So as far as we know they did not surface any problems that they saw with the 1934 act.

Mr. CARR. Well, that doesn't mean that there are not some. The Federal Communications Agency, for all of their virtues, doesn't seem to exhibit a defensive individual rights in a number of areas, not the least of which are cellular phones on airplanes and a few other things. This is not unusual to this particular committee. They see themselves more as a traffic cop of the spectrum, not a particular defender of citizens' rights, necessarily. I would like to have a copy of that letter.

Mr. EICHER. We will be happy to submit it for the record, Mr. Chairman or whatever way.

Mr. CARR. Just send it to me. We have been here a long time. I appreciate the attention that you have given to the Committee's needs for information. I have additional questions for the record.

HIGHWAY SAFETY INFORMATION SYSTEM

Mr. **Wolf**. You are currently designing a state-of-the-art highway safety analysis tool called HSIS (Highway Safety Information System.) How many States are involved in this system, and is my own State of Virginia participating?

[The information follows:]

At the present time, five States (Illinois, Maine, Michigan, Minnesota, Utah) are included in the HSIS. These States were selected based on the types of accident, roadway design, and traffic volume data they collect, the quality of the data, and their demonstrated ability to combine the data for roadway-based analyses. These data are the same data that are collected by the States for their own use. Participation by the States is voluntary and they receive no monetary compensation. The FHWA does provide the States with input on ways to improve their systems as well as the results of analyses that are completed using their data. The FHWA is planning on adding three to four additional states to the HSIS in FY 1994. All of the non-participating States (including Virginia) will be examined using the same criteria that were used to select the current HSIS States.

Mr. **Wolf**. How will the data collected on HSIS be shared with the State transportation department safety divisions?

[The information follows:]

No new data is collected for HSIS. The HSIS is designed to utilize the data already being collected by the States for other purposes. The HSIS provides the FHWA with a data that can be used to identify current highway safety problems, scope future research efforts, and analyze the effectiveness of accident countermeasures. The HSIS serves as a data resource for other Federal agencies, State DOTs, research contractors, and university researchers. The availability of the data has been publicized through distribution of a brochure, publication of technical articles, and presentations at national conferences. Results from HSIS analyses are disseminated through the publication of short HSIS summary reports that are distributed to all State DOTs.

Mr. **Wolf**. Under HSIS or any of your other safety research projects, have you examined the safety problems inherent in using shoulder lanes during rush hours?

[The information follows:]

This issue has not been examined using the HSIS. However, it is being studied as part of an National Cooperative Highway Research Program study titled "Use of Shoulders and Narrow Lanes to Increase Capacity." The objectives of the project are to evaluate applications of shoulders and narrow lanes to increase capacity and to develop recommendations and design guidelines for their use. This study involves the collection of data from sixty sites to twelve corridors throughout the country. The study is scheduled to be completed in mid-1993.

SAFETY OF USING SHOULDER LANES

Mr. **Wolf**. This is critical given that a number of congested areas, such as Northern Virginia, are turning to the use of shoulder lanes to achieve some peak capacity in areas where there is limited ROW (right of way) available for additional conventional lanes.

I wonder if there are any other comparable highways in the country where they have implemented use of the shoulder lanes, and if so, what have been the safety implications?

[The information follows:]

Information on this is very limited, but we do know that shoulders have been converted for use as thru lanes in several locations. Generally these have been interim measures, in use full time, to provide more capacity and relieve congestion. The design and individual characteristics are unique to each case. The locations where we are aware that this intermittent-type facility is being used or has been in use during peak periods are as follows:

Houston, Texas—At several major freeway interchanges, this was used to provide additional capacity to the next adjacent interchanges. Lengths were about one mile, and they were removed after permanent upgrading was completed.

Massachusetts—At least three roadways operate with intermittent shoulder lanes.

New York—Two sections of an expressway operate in this manner.

New Jersey—Various major arterials use shoulders for part time lanes.

California—Santa Clara County has used this concept on at least two expressways.

Virginia—In the Hampton Roads/Virginia Beach area on SR–44 this concept is in use, but the final signing (changeable-message) has not been completed. Therefore, an accurate evaluation cannot be made yet. It is apparently operating satisfactorily. The section of I–95 South of the Beltway, in Northern Virginia, was operated with intermittent shoulders for some time, but was later converted to full time lane without shoulders.

There may be other locations of which we are unaware. In the above examples, we are not aware of any safety analysis which was performed or of any major safety implications which may have resulted.

Because of the increased use of highway shoulders for general traffic and/or HOV lanes, FHWA will be undertaking a research study to document and evaluate the practice.

OLDER DRIVERS

Mr. WOLF. At the same time our highway system is becoming more difficult to navigate, especially in congested urban areas, we have an aging society with higher numbers of older drivers. I have introduced legislation that seeks enhanced safety initiatives for at-risk drivers, primarily teenagers. But there is also a section of the bill calling for study of the special problems experienced by older drivers such as reduced visibility, lengthier reaction time, and increased difficulty with certain freeway maneuvers.

Can you update the committee about FHWA's human factors research that specifically targets making highway travel more user-friendly for an aging population?

[The information follows:]

FHWA has an on-going research program designed to identify, develop, and evaluate engineering enhancements to the highway system to meet the needs of older road-users. It is important to keep in mind that benefits to older road-users in the form of highway improvements are shared by all road-users. The program is comprehensive in scope and addresses all major aspects of highway design and operations as they pertain to both drivers and pedestrians. Current highway standards, warrants, guidelines, and operating policies which contain quantitative and qualitative specifications for the driver or pedestrian, are being examined from the perspective of the older road-user. In addition, critical highway features associated with older road-user problems, such as intersections, are also being addressed by the research. The ultimate aim is to improve highway safety and mobility for all drivers.

Mr. WOLF. Also, as we accentuate our efforts to make highways more user-friendly for the entire population through IVHS (Intelligent Vehicle-Highway Systems) research and development, can you tell the committee what IVHS technology would make travel more efficient especially for older drivers? Are there night vision improvement systems or other technology that could assist them with, for example, multiple maneuvers required at busy intersections where crashes often occur?

[The information follows:]

Advanced Traveler Information Systems (ATIS) is one of five areas being addressed in the Department of Transportation's Intelligent Vehicle Highway Systems (IVHS) Program. ATIS includes providing in-vehicle guidance information to drivers, as well as displaying highway sign information within the vehicle compartment.

Previous research has shown that cognitive decrements affiliated with age interfere with the driving task. Dividing attention while driving appears to be a significant problem for older persons. In-vehicle guidance systems can significantly reduce the cognitive load imposed by tasks affiliated with driving, by providing real-time routing information.

In-vehicle signing also has potential to significantly ameliorate the difficulty of the driving task for older persons. A number of research efforts have found that current highway signing standards do not accommodate the visual needs for older drivers. In-vehicle signing can assist older drivers by insuring that sign information is provided within an adequate time frame for the driver to process the information and execute the appropriate maneuver. It is also expected in-vehicle signing will reduce driver stress and tension thus permitting drivers to more closely monitor other vehicles and the overall traffic stream dynamics.

In order to assist older drivers, it is critical that the displays and controls affiliated with these systems be designed to accommodate the needs and capabilities of the older population. Ongoing research sponsored by the Federal Highway Administration is investigating the needs of older drivers in regards to ATIS systems; future research will specifically address night vision improvement systems.

IVHS PROTOTYPE HIGHWAY

Mr. Wolf. The ISTEA legislation required the demonstration by 1997 of a prototype highway which will demonstrate IVHS technologies. What is the status of this mandate and in what area of the country will this demonstration occur?

[The information follows:]

Pursuant to the ISTEA legislation, a program to develop and demonstrate an Automated Highway System (AHS) is now underway. A major contract to investigate AHS human factors issues which will affect the design and operation of an AHS was awarded in 1992. Fifteen separate contracts will be awarded during 1993 to investigate the full range of issues pertinent to AHS and create a foundation of research knowledge that will support system concept selection and development. The DOT expects to establish a public/private consortium during 1993 to actually perform the system analysis, design, and the test track demonstration of the prototype in 1997. The area of the country in which the test track demonstration will occur will be determined by the DOT and the AHS consortium based on many factors, some of which will be determined by the system design finally selected for development and test.

TRUCK WARNING SYSTEM

Mr. Wolf. I included language in our bill three years ago (fiscal year 1991) to test the efficiency of automatic truck warning systems on key Beltway ramps in both Virginia and Maryland. These systems will detect the approach speed of trucks and determine if their speed is inappropriate given, one, the type of truck, two, environmental conditions present, and three, the sharpness of the ramp curvature.

Regrettably, there have been some delays in getting this program up and running, but it is my understanding that these truck warning signs will be in operation by September 1993.

First, is there some assurance that this schedule will not slip any further?

[The information follows:]

Bids have been received from the International Road Dynamics Company (IRD) and local contractors to manufacture and install the truck warning systems in Virginia and Maryland. The bids are over the engineer's estimates.

The Federal Highway Administration (FHWA) is seeking additional funding to cover the higher bids. The States of Maryland and Virginia are proceeding with the procurement process to award the contracts.

Mr. WOLF. Second, once the signs are operational, how will FHWA collect data, for how long, and what will be done with the data?

This is important because if these signs work in the Washington area, they would probably work anywhere in the country. This could save thousands of lives, plus all the costs that accompany truck rollovers, especially in the case of hazardous or toxic waste spills.

[The information follows:]

The Federal Highway Administration (FHWA) has advertised a 3-year research contract to evaluate the prototype automatic truck warning system. Proposals are due June 9.

The contract has three objectives:

1. To record and monitor the operation of three prototype automatic truck warning systems on designated ramps on the Capital Beltway in Virginia and Maryland.
2. To periodically test the systems to ensure they are operating correctly, and make all the necessary repairs when the system fails to operate in the required manner.
3. To evaluate the operations of the systems to determine their effectiveness in warning trucks, the equipment performance, and to recommend and/or provide improvements if needed.

Each warning system consists of speed measurement equipment, a weighing-in-motion detector, a height measurement radar, a processor, and an activated warning sign. The system will automatically record when the signs are activated, the weight and number of axles of the truck that activated the system, the speed of the truck at the initial detector and the speed when it reached the downstream detector at the curve. The system operations will be monitored and recorded at the State operations centers.

The consultant will prepare a technical report on the operational costs, the effect on truck safety and speeds, and recommend any improvements needed in the system.

NHS TIME TABLE

Mr. WOLF. When must the States have their designations turned in to FHWA for the National Highway System (NHS) mandated in ISTEA?

[The information follows:]

In instructions issued in June 1992, the States were requested to submit their proposed systems to the FHWA by April 30, 1993. This date was established to allow sufficient time for the FHWA complete its analysis of the individual State submissions and prepare final system for submission to the Congress by December 18, 1993.

Mr. WOLF. When is FHWA, in turn, required to compile the list nationwide and submit it to Congress (so that it can be passed by Congress by the September 30, 1995, deadline)?

[The information follows:]

The Secretary of Transportation is required to submit the proposed NHS to the Congress not later than December 18, 1993.

Mr. WOLF. What criteria are being used for designating roadways to the NHS list? Are the States using uniform criteria?

[The information follows:]

Criteria for designating routes for the NHS were identified in Section 1006 of the ISTEA. These criteria were essentially incorporated without change or amplification in FHWA's instructions to the States for developing the proposed NHS. Specifically, the proposed NHS will consist of routes on the Interstate System; the strategic highway network (STRAHNET) and major STRAHNET connectors designated by the Department of Defense in cooperation with the Department of Transportation; the high priority corridors identified in Section 1105(h) of the ISTEA; highways that provide access to major ports, airports, international border crossings, public transportation facilities and intermodal transportation facilities; and other urban and rural principal arterials which serve interstate and interregional travel.

Although the States are using the same criteria in developing their proposed systems, they have considerable flexibility in applying the criteria in many cases. For example, FHWA did not tell the States which ports, airports, international border crossing, etc., must be served by the NHS. Rather, the States, in cooperation with the metropolitan planning organization, will identify appropriate routes to meet this criterion based on the results of their statewide and metropolitan transportation planning activities.

CONGESTION MITIGATION AND AIR QUALITY

Mr. Wolf. CMAQ funds were authorized in ISTEA to help nonattainment areas meet the national ambient air quality standards. How are these funds allocated to the States?

[The information follows:]

CMAQ funds are apportioned to the States annually according to a formula specified in the ISTEA. The primary factors on which the formula is based is the population of the State living in ozone nonattainment areas and the severity of the ozone air pollution problem. Additional weight is given to areas that also are in nonattainment for carbon monoxide, raising the State's annual apportionment.

Each State, even if it contains no nonattainment areas, is guaranteed a minimum apportionment of 0.5 percent of the yearly total.

Mr. Wolf. What types of projects have qualified for this funding?

[The information follows:]

Typical projects obligated in FY 1992 under the CMAQ program include:
Purchase of transit vehicles, and transit station and signal improvements,
High Occupancy Vehicle lane development,
Traffic surveillance and incident management programs,
Traffic signalization and intersection improvements,
Ridesharing programs,
Bicycle paths and pedestrian walkways,
Park-and-ride lots for transit and ridesharing, and
Inspection and maintenance facilities.

COST BENEFIT ANALYSIS

Mr. Wolf. You mentioned in your testimony that you have many tools to allow FHWA to do cost benefit investment analyses on highway projects from a national perspective. What are those tools and are you performing such analysis?

[The information follows:]

The major tool for use at the national level is the Highway Economic Requirements System (HERS). This model is now being evaluated and we expect to use it for the 1994 report to the Congress, "The Status of the Nation's Highways, Bridges, and Transit: Conditions and Performance." This is a newly developed model that uses the HPMS data base as input and makes its decisions regarding the type and timing of improvements based on incremental benefit/cost analysis. Both agency and user costs are included in this process.

Life cycle cost analysis is a concept that has been available for some time. It has application to the selection of types of pavement or bridge designs, and accounts for costs over the life of a particular project. It has often included only agency costs, but user costs may be included. In the past, its use has been largely for specific project assessment, and therefore has had limited application at the national level. However, we are currently exploring increased use of this tool at the national level. HERS includes elements of this procedure, and we intend to strengthen HERS in the future by the inclusion of additional aspects of life cycle cost analysis.

The Highway Investment Analysis Process (HIAP) is another tool that has been available for nearly 20 years to rank projects in priority order using economic analysis. Again, this tool is more adapted to use at the project level. We see HERS replacing HIAP as the tool of choice for economic analysis of highway capital investment strategies.

BID RIGGING

Mr. Wolf. One of the concerns many of us had with the use-or-lose provisions in the supplemental stimulus bill was that the pressure to spend quickly might preclude the need to spend wisely, and might in fact even spawn waste, fraud and collusive bid-rigging. The DOT's Inspector General echoed these concerns in our hearing with her. Do you have analytical tools for also looking at highway spending through the lens of potential corruption?

[The information follows:]

The concern for the need to spend quickly and wisely as a result of the stimulus bill has been lessened by the failure to get the bill through the U.S. Senate. The Federal Highway Administration has always been concerned in regard to wisely spending Federal-aid highway funds and believes our record of oversight and administration of the program with regard to potential corruption has been very good.

Bidrigging, price fixing or collusion is a direct challenge to the basic FHWA philosophy of competitive bidding. These activities can be defined as a conspiracy to disrupt or circumvent the competitive bidding environment by establishing a competitive advantage for certain bidders. The motivation behind bidrigging is GREED.

State DOTs constantly monitor the award process and are aware of items, such as bid patterns, that indicate irregularities may be involved. Along with having the ability to call on the DOT Office of Inspector General when indicators might arouse our suspicions, State's also have investigators available as a resource. FHWA is not an investigatory agency and relies upon the OIG when these services are needed.

Bidrigging patterns include bid suppression, complementary bidding, bid rotation and market division. "Penny bids," "unbalanced bidding," "front loading," and "identical bidding" may be indications of complementary bidding.

In 1990, FHWA's Office of Program Review performed a study and compiled a list of States that were deemed to be most susceptible to bidrigging. The States identified were California, Illinois, Louisiana, Mississippi, Missouri, New Jersey, Ohio, Pennsylvania, Utah, and the District of Columbia. This list was subsequently provided to the Department's Office of the Inspector General (OIG) for their appropriate use in scheduling future investigations.

By memorandum to all region and division offices dated March 15, 1991, the FHWA Administrator reemphasized the need to be alert to possible bidrigging activities because of the increased Federal-aid program. He requested that the OIG be kept informed of any questionable activities or bidding peculiarities. Also, it was requested that the Chief Counsel be kept advised of any State attorney general offices investigations or prosecutions of bidrigging or related activities.

RADAR DETECTORS

Mr. Wolf. In the safety research at FHWA, have you looked into the use of radar detectors on commercial trucks, particularly those moving hazardous materials? Is there any data available on this subject that you know of?

[The information follows:]

As stated previously, the FHWA does not have data to substantiate or refute that a ban on the use of radar detectors in commercial motor vehicles would improve highway safety.

14TH STREET BRIDGE

Mr. Wolf. Please provide any available data concerning the cost and feasibility of adding a reversible lane to the 14th Street Bridge.

[The information follows:]

There is no recent data concerning the cost and feasibility of adding a reversible lane to the 14th Street Bridge. A 1986 Feasibility Study of Measures to Improve the Safety, Capacity, and Operation of the 14th Street Bridge on I–395 and the I–395 and George Washington Memorial Parkway Interchange discussed alternatives including widening the inbound and outbound structures. However, the study did not include adding a reversible lane.

The addition of mixed traffic to the center span during HOV use was not considered in the 1986 study, so it is unknown how this impacts the study results. It was fairly clear from the study, however, that any proposed modification such as adding a reversible lane to the center span would have to carefully consider how the added traffic could be dispersed onto the existing street and highway network (on either end). Otherwise, the increased bridge capacity could not be efficiently utilized and may not be cost-effective.

ISTEA FUNDING FLEXIBILITY

Mr. CARR. To what extent have the States and urban areas used the ISTEA funding flexibility available to them? Provide both highway to transit and transit to highway information.

[The information follows:]

The following table shows the amount of highway funds used for transit purposes, by State, Urban area and category of funding. To date there have been no transit funds used for highway purposes.

FEDERAL HIGHWAY ADMINISTRATION

INTERMODAL SURFACE TRANSPORTATION EFFICIENCY ACT OF 1991
FUNDS OBLIGATED FOR TRANSIT PROJECTS ADMINISTERED BY FTA
CUMULATIVE AS OF March 31, 1993

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			FUNDS OBLIGATED			
STATE	CITY	PROJECT	STP	CMAQ	OTHER	STATE TOTAL
ALABAMA	MONTGOMERY	TRANSIT CAPITAL IMPROVEMENTS	501,476			501,476
ARIZONA	TUCSON	PURCHASE TWO BUSES	600,000			
	MARICOPA(PHOENIX)	UPGRADE AND REFURBISH BUSES		5,700,000		6,300,000
CALIFORNIA	SACRAMENTO	DESIGN/CONST NATURAL GAS FUEL STN	1,200,000			
	SAN DIEGO	REPLACE BUSES AND SIGNS	531,000			
	SAN DIEGO	REPL OLD BUSES & SIGNS, BUS STOPS		9,269,000		
	SAN DIEGO	CONST BUS CTR & PURCHASE BUSES		1,766,800		
	FRESNO	PURCHASE 20 BUSES		2,205,000		
	STOCKTON	BUS PURCHASE AND COMMUTER SERVICE		1,780,000		
	SAN BERNARDINO	PURCHASE 3 BUSES/20 SHELTERS		224,000		
	STANILAUS	AUTOMATIC VEHICLE LOCATER		79,916		
	TULARE	PURCHASE 2 BUSES		97,383		
	SAN FRANCISCO	FACILITY REHABILITATION	1,200,000			
	STATEWIDE	TRANSFER CNTRS/FARE COLLECTION SYS	468,700			
	SACRAMENTO	REGIONAL TRANSIT PROJECTS	2,183,954			
	SANTA CLARA	REPLACE STORAGE TANK & BUS YARD	3,600,000			
	COUNTYWIDE	PURCHASE 6 ALTERNATIVE FUEL BUSES	1,320,000			
		PROPERTY ACQ. TRANSIT FAC.	130,000			
	OJAI	PURCHASE 2 TROLLY BUSES		177,060		
	STATEWIDE	TRANSFER CNTRS/FARE COLLECTION SYS		7,810,480		
	SAN RAFAEL	PARK AND RIDE LOT		400,000		
	SACRAMENTO	REGIONAL TRANSIT PROJECTS		4,418,135		
	GOLDEN EMPIRE	CONSTRUCTION CNG FUELING STATION		1,360,000		
		PURCHASE 210 BUS RADIOS		932,800		
		LEASE OF 162 COACHES		4,220,000		
	YOLO	RETROFIT BUSES FOR ADA COMPLIANCE	133,650			
	SAN LUIS	REHABILITATE 10 TRANSIT BUSES	81,300			
	YOLO	RETROFIT BUSES FOR ADA COMPLIANCE		885,300		
	LOS ANGLES	OPERATING ASSISTANCE		2,740,100		
	SONOMA	PURCHASE OF 15 BUSES FTA TRANSFER		3,360,000		
	CITYWIDE	PURCHASE OF 6 BUSES		552,000		53,126,578
CONNECTICUT	HARTFORD	UNION STATION REHAB	61,832			
	BRIDGEPORT	REPLACE PECK BRIDGE		14,173,600		
	HARTFORD	PURCHASE BUS		4,454,400		18,689,832
GEORGIA	ATHENS	TRANSIT IMPROVEMENT	394,955			394,955
IDAHO	BOISE	PURCHASE NATURAL GAS BUS		870,000		870,000
ILLINOIS	CHICAGO	COMMUTER LOT		3,900,000		
	CHICAGO	PURCHASE 45 BUSES		7,000,000		
	CHICAGO	PURCHASE 200 VANS		3,900,000		14,800,000
IOWA	STATEWIDE	BUS PURCHASES	50,000			50,000
LOUISIANA	STATEWIDE	N/A	753,645			753,645
MARYLAND	BALTIMORE	REFURBISH/PURCHASE RAIL EQUIP		10,074,860		10,074,860
MASSACHUSETTS	BOSTON	RESTORE RAIL LINE/CONST COMMUTER STA				
	CANTON	INTERMODAL STATION IMPV. BY MBTA	935,000			
	STATEWIDE	ACCESSIBILITY IMPV'S CONST. MBTA	588,150			
	GLOUCESTER	GRADE CROSSING IMPV'S CONS. BY MBTA	120,000			
	LINCOLN	GRADE CROSSING IMPROVEMENTS MBTA	120,000			
	OLD COLONY	FIXED RAIL TRANSIT BY MBTA		21,040,000		
	STATEWIDE	INTERMODAL PARKING FACILITIES MBTA		6,560,000		
	STATEWIDE	INTERMODAL IMPV'V TO WESTFORD STA.		2,880,000		
	WORCESTER	PE & ROW TRANS CENTER ADM BY MBTA		800,000		
		CONS. UNDER THE DIR OF THE MBTA		27,200,000		60,243,150
MICHIGAN	MUSKEGON	BUS PURCHASE		192,000		192,000
MINNESOTA	DULUTH	MALL HUB SYSTEM AND BIKE RACKS		344,000		344,000
NEBRASKA	OMAHA	PURCHASE TRANSIT BUSES	400,000			400,000
NEW JERSEY	STATEWIDE	HISTORIC RAIL STATION	4,000,000			
	STATEWIDE	PURCHASE DIESEL LOCOMOTIVE		13,000,000		

FEDERAL HIGHWAY ADMINISTRATION

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STATE	CITY	PROJECT	FUNDS OBLIGATED STP	CMAQ	OTHER	STATE TOTAL
	STATEWIDE	SIGNAL SYSTEM UPGRADE		17,000,000		34,000,000
NEW YORK	NEW YORK CITY	DESIGN & CONST VARIOUS CAPITAL	26,700,000	73,300,000	100,000,001 *	
	DUTCHESS COUNTY	TRANSFER TO FTA-BUS SHELTERS		116,000		
	DUTCHESS COUNTY	TRANSFER TO FTA-BUS PURCHASE		400,000		
	DUTCHESS COUNTY	TRANSFER TO FTA-MARKETING		61,000		
	NEW YORK CITY	TRANSFER TO FTA-OPERTING COST		219,400		
	SARATOGA COUNTY	TRANSFER TO FTA FOR BUS PURCHASE	1,048,000			
	NIAGARA	3 PARK AND RIDE LOTS		492,000		
	CAPITAL DISTRICT	TRANSIT PROJECTS WITH CMAQ TRANSFER		2,108,000		204,444,401
NORTH CAROLINA	DURHAM	TRANSIT PROJECT	160,000			160,000
OHIO	COLUMBUS	ST ADMIN SCHOOL BUSES/VANS/MAINT. FAC	1,298,977			
	COLUMBUS	20 LIFT EQUIP BUSES		3,500,000		
	CLEVELAND	PASSENGER ACCESSWAY		8,648,000		
	STATEWIDE	STUDY, FIXED GUIDEWAY TRANSIT SYSTEM	600,000			
	SORTA	PARK, RIDE AND ROWA	2,758,000			
	COLUMBUS	48 BICYCLE STORAGE LOCKERS		650,000		
	AKRON	PURCHASE RAIL LINE	788,574			
	CLEVELAND	CONSTRUCT CNG FUELING FACILITY		2,400,000		20,643,551
PENNSYLVANIA	ALLENTOWN	PURCHASE LIFT VEHICLES	400,000			
	CALIFORNIA	PURCHASE HANDICAP ACCESSIBLE BUS		200,000		600,000
TENNESSEE	MEMPHIS	MPO PRIORITY 7	400,000			400,000
TEXAS	FORT WORTH	TRANSF PROJ TO FTA FOR OVERSIGHT E			3,537,600 ***	
	FORT WORTH	BUSES		1,000,000		
	STATEWIDE	TRAVEL DEMAND MANAGEMESNT		100,000		4,637,600
UTAH	STATEWIDE	PURCHASE 10 BUSES 20 VANS		2,400,000		2,400,000
VERMONT	BURLINGTON	IMPROVE MAINT FAC	200,000			
	STATEWIDE	PROPERTY ACQUISITON	156,600			
	STATEWIDE	COMPUTER EQUIP	1,884,000			
	STATEWIDE	TRANSIT PROJECT	471,000			
	STATEWIDE	PROPERTY APPRAISALS/CONST SERVICES	33,400			2,745,000
VIRGINIA	NEWPORT NEWS	FOUR REPLACEMENT BUSES		704,000		
	HAMPTON	BUILD TRANSPORTATION CENTER		1,000,000		
	NEWPORT NEWS	BUILD TRANSPORTATION CENTER		1,000,000		
	RICHMOND	FEASIBILITY AND DESIGN STUDY		200,000		
	RICHMOND	IMPLEMENT COMPREHENSIVE TRANSIT PLAN		800,000		
	RICHMOND	ACQ ALT FUEL BUSES FOR GRTC BUSES		367,000		
	WASHINGTON, D.C.	30 REPLACEMENT BUSES		4,600,000		
	WASHINGTON, D.C.	FIVE COMMUTER BUSES		920,000		
	NORFOLK-PORTSMOUTH	20 TRANSIT COACHES FOR HOV EXP BUS		3,440,000		
	PRINCE WILLIAM	WOODBRIDGE COMMUTER RAIL ST EXPANSION		4,508,000		17,539,000
WASHINGTON	KING & SNOHOMISH	PURCHASE BUSES & BICYCLE TRAN. TRAIL		10,097,078		
	CLARK	BUS ROLLING STOCK LIFTS PARTICULATE		1,827,700		
	CLARK	BUS SUPPORT EQUIPMENT FACILITY	27,200			
	KING & SNOHOMISH	METRO	100,000			12,051,978
WEST VIRGINIA	HUNTINGTON	PURCHASE AND RENOVATE BUS TERMINAL		291,246		291,246
WISCONSIN	MILWAUKEE	PURCHASE TRANSIT BUSES	717,000			
	MANITOWOC	PURCHASE BUS		200,000		
	MILWAUKEE	BUS UPGRADES		2,118,400		
	MILWAUKEE	PURCHASE BUSES			883,000 **	3,918,400
VIRGIN ISLANDS	ST.CROIX,ST.JOHN	TRANSFER OF FUNDS	5,100,000			5,100,000
TOTAL OBLIGATED			62,216,413	309,034,658	104,420,601	475,671,672

* Interstate Highway Substitution Funds being used for Transit Purposes
** Minimum Allocation Urbanized funds
*** Priority Intermodal Projects

Mr. CARR. What is FHWA's expectation on State and urban area usage of this funding flexibility over the ISTEA authorization period?

[The information follows:]

It is our expectation that the use of highway funds for transit purposes will increase as the States continue to operate under the ISTEA. Since the flexibility procedures were finalized on June 19, 1992, over $475 million in highway funds have been used for transit projects. As States become more comfortable with the ISTEA and the flexibility provided by it, we would expect the use of the flexibility provisions to continue to grow.

CONGESTION MITIGATION AND AIR QUALITY

Mr. CARR. How much of the highway to transit movement has been from the Congestion Mitigation and Air Quality category? Is it possible that a considerable part of the transfers represents not so much a willingness to use highway money for transit as much as the realization that projects are not ready in the CMAQ category?

[The information follows:]

Through February 1993, $331 million of Title 23 funds were used for transit. Of this, $277 million (83.7 percent) was obligated under the CMAQ Program.

To date, many areas across the country are still in the process of determining how to best use their CMAQ funds, and project development is continuing as State air quality plans develop. Significant revisions to many State Implementation Plans are due in November of 1993 and 1994. Project development and CMAQ obligations are expected to increase as transportation control measures are identified and air quality plans are finalized. Well over half of the CMAQ funds (58 percent) were obligated for transit and other flexible uses in FY1992, and we have no reason to believe that future obligations will be less flexible.

OBSTACLES TO USING FUNDING FLEXIBILITY

Mr. CARR. What obstacles prevent fuller use of ISTEA's funding flexibility provisions?

[The information follows:]

There are several reasons why the states are not yet able to take full advantage of the flexibility provisions. One of these lies in the number of flexibility choices the State and local governments must make. The act increased the eligible activities for which Federal-aid highway funds can be used, in some cases offering an opportunity to use funds for brand new purposes. This has created a new constituency that States and locals must deal with in determining how and where to use funds. The State and local officials are having to learn how to work with this greater number of choices and the broader constituency.

A second reason relates to the enhanced relational requirements of the act whereby the States no longer plans for and select projects unilaterally, but must cooperate with local officials. In fact, for certain kinds of projects, it is the local officials that do the selecting in cooperation with the States. And both entities must work closely together in carrying out the new statewide and metropolitan planning requirements. It is taking some time for the two levels of government to grow into this new relationship.

A major reason, however, is the obligation limitation that is placed on the program, particularly one that is as restrictive as the fiscal year 1993 limitation. While we understand why these limitations are considered necessary, they do disrupt the ability of State and local governments to develop their plans and programs. It is through the planning processes that priorities are identified and it is the identification of priorities that lead to decisions on use of the flexibility provisions. Thus, while States and locals know fairly accurately how much their future appointments will be, they do not know how much of those distributions they will be allowed to use.

LIFE-CYCLE COST ANALYSIS

Mr. CARR. In an April 1992 report, the Department of Transportation's Office of Inspector General (OIG) concluded that six asphalt projects in South Carolina should have been built stronger to last 20 years rather than 10 years. The OIG noted that this longer design life would have reduced life-cycle costs by $1,901,185. However, the OIG found that the State's design process intentionally underdesigns the asphalt pavement structure to last only about 10 years at forecasted traffic. The Federal Highway Administration (FHWA) responded that since the projects were designed for 10 years, it was not correct to say that they were "underdesigned" by not being designed for 20 years. FHWA noted that, other than the original interstate construction, there is no requirement to use a 20-year design for pavements. Further, in many cases, asphalt pavements require resurfacing at an age of 10 to 15 years to correct functional problems.

When does FHWA require life-cycle cost analysis?

[The information follows:]

The FHWA recognized the need for the use of life-cycle cost analysis in pavement design by including the requirement for an economic analysis in the January 1989 Pavement Policy. As a result, the States perform an economic analysis of alternate designs for new and reconstructed pavements and for the major rehabilitation of pavements approaching terminal serviceability and exhibiting significant structural deficiencies.

Mr. CARR. What is FHWA's position on designing high traffic corridors to last longer than the Interstate's original 20-year design life?

[The information follows:]

The FHWA supports designing pavements on high traffic corridors to last longer than 20 years. We are constantly working with the States to improve their pavement design procedures. A number of States now have accepted pavement design procedures which call for pavement designs in excess of 20 years.

PAVEMENT LIFE

Mr. CARR. When would FHWA consider a pavement underdesigned?

[The information follows:]

The FHWA considers a pavement underdesigned when the pavement thickness provided is less than that required by the State's pavement design procedure, for predicted traffic loadings during the design period.

Mr. CARR. If asphalt resurfacing may not be required until 15 years after construction, does it make sense to provide for a 10-year design life?

[The information follows:]

The selection of a pavement design life is based on a number of factors including the functional life of the pavement, an economic analysis of the various alternatives, and funding available to meet statewide needs. Individual project costs must be balanced with overall system needs. In cases where needs exceed available funding, shorter design lives may be required on individual projects to provide funds for other high priority projects.

PRIVATE SECTOR INVESTMENT

Mr. CARR. ISTEA allows the use of Federal-aid funds on privately owned facilities. This is expected to increase the attractiveness of toll road development as an investment option. The Department of Transportation has reported that an estimated $6.4 billion was invested by the private sector for on-site highway improvements and $3.2 billion off-site in 1989. However, DOT cautions that these are extremely rough estimates and should be viewed as very preliminary, as further effort is needed to get better data on this important and growing area of highway financing.

What is the annual potential private sector investment in future highway investments?

[The information follows:]

There are no good estimates of the annual potential private sector involvement in highway investment. As mentioned in the 1993 report on "The Status of the Nation's Highways, Bridges, and Transit: Conditions and Performance," private sector investment has two major components: the construction of roads and bridges to provide access to new development, and the development of new facilities, such as the proposed Dulles Toll road and the four California demonstration projects, with the objective of making a profit for investors directly from the revenues generated by the facility usually in the form of tolls.

The first type of private sector investment is not new but the actual magnitude of the investment in the road system is usually buried in total development costs and is not easily accessible. While the private sector is clearly making a substantial investment in infrastructure in new developments, it is of limited interest at the national level and no serious attempt has been made to forecast investment.

While the second type of private investment occurred frequently in the last century, there is virtually no recent history of this type of private sector investment in highways. Without this kind of information, it is difficult to forecast future potential.

Mr. CARR. What is DOT doing to improve the reliability of information on private sector highway investments?

[The information follows:]

One of the key factors in improving the reliability of the information on private sector highway investments is a good operational definition of "private sector investment." DOT has developed the definition included in the "Conditions and Performance Report" to ensure that the appropriate kinds of investment are classified as "private sector." For example, investments funded through special district assessments or by development fees paid to a governmental entity are frequently referred to as private sector financing. However, this type of financing falls within the operational definition of public sector financing, i.e., financing for highways that is managed by the public sector.

Based on these definitions, DOT is working to identify potential sources of information on private sector highway investment. One of the major problems is identifying all of the highway investment projects that are included in this definition of private sector investment. While information is available on total estimated project costs for larger projects that have been given national attention, there may also be smaller projects involving private sector investment.

BID-RIGGING

Mr. CARR. The Inspector General has testified in past years that bid rigging on highway construction projects could be costing the taxpayers as much as $1 billion annually. What is your best estimate of the amount lost due to bid rigging and what procedures does the FHWA have to combat it?

[The information follows:]

The FHWA does not have a method of determining nor would we venture to estimate the potential amount of money lost due to bid rigging on Federal-aid highway projects. We are not aware of the basis utilized by the Office of Inspector General to estimate such a number as 1 billion dollars.

The FHWA has implemented several internal program procedures which are intended to deter bid rigging. In addition, we support the programs and activities of other agencies that correlate with FHWA's program. These include:

Requiring the division offices to perform a review of the State's contract administration policies and procedures on a 4-year cycle. Review of a State's bidding and estimating procedures to identify those that may be conducive to bid rigging is part of the review.

Distributing information on and encouraging the use of the OIG's telephone "hotline" to provide information on bid rigging activities.

Assisting the OIG, as appropriate, in bid rigging investigations. The FHWA field offices have been directed to keep the OIG informed of questionable activities or bidding peculiarities that they become aware of in their dealings with the State highway agencies (Administrator's March 15, 1991 memorandum).

Assisting the Department of Justice (DOJ), as requested, in prosecution of bid rigging offenders.

Implementing procedures for suspension and debarment of individuals and companies involved in bid rigging activities, pursuant to 49 CFR Part 29.

Supporting the development and implementation of computer software (i.e., Bid Analysis and Management System (BAMS)) to assist the States in the detection of bidding collusion.

Requiring all bidders to provide as a condition of bid submission a Noncollusion Certification.

We are not aware of any current bid rigging investigative or prosecutive activity by either the DOJ or the OIG. Also, we do not have any information from our field offices that would indicate significant activity by States attorney generals in this area.

USE OF BAMS TO DETECT BID RIGGING ACTIVITIES

Mr. Carr. What about BAMS, a computer software collusion detection system? How many States are using it? How many have devoted sufficient resources to BAMS to make it work well? Is there evidence in the States that have full BAMS systems that the amount of bid rigging activity is decreasing?

[The information follows:]

Use of the Bid Analysis and Management System (BAMS) by State DOTs is supported by the FHWA because we believe it has potential to detect bidding patterns and bid irregularities. Because of the large number of projects, the number of bidders and the large amount of data that needs to be analyzed when reviewing the highway program, tools such as the BAMS system which are readily available appear to be a wise investment both for deterrent purposes and investigative purposes.

Based on information available from AASHTO, in 1992 there were 29 States licensed to use BAMS. Not all the States were using the 5 different modules that are available in the BAMS system, i.e. Decision Support System (DSS), Construction Estimation System (CES), Proposal and Estimation System (PES), Letting and Award System (LAS), and Construction Administration (CAS). Those States that are using one or more of the BAMS modules believe it is assisting them in their administration of the construction program, beginning with preparation of the engineer's estimate continuing through the award process and into monitoring of the actual construction project.

An analysis has not been completed by FHWA to determine if full usage of the BAMS system has decreased the bid rigging activity in a State. Our belief is that the system is a deterrent to potential bid riggers but until those that have been involved testify, we have no solid proof whether it does or not.

IVHS BENEFITS

Mr. Carr. Currently, it is estimated that congestion on the Nation's highways costs $100 billion per year. Accidents cost another $70 billion annually.

Are there any realistic estimates of the contribution IVHS can make during the next 20 years to reduce these costs?

[The information follows:]

We expect that congestion cost savings can be expected to slightly exceed those given in the IVHS AMERICA's strategic plan based on data from field tests and traffic modeling. Our estimates of savings from accident reductions, however, are still based largely on expert opinions.

Our best estimates of annual congestion costs savings (based on 1992 dollar values) are $3.5 billion for the year 2001 and about $14 billion for the year 2011. These estimates are based on the assumption that one-half of the Nation's 75 largest cities would have substantial deployment of IVHS services by 2001 and that all of these 75 cities would capture the benefits of development work and field testing related to advanced traffic management and traveler systems by the year 2011. In this same time period, additional congestion savings are expected from the deployment of traveler information systems in rural areas and from the first stage of advanced vehicle control systems.

Safety estimates are more difficult to make because we still lack credible models for making projections. However, from range deployment scenarios, we can provide a range of safety cost savings for those IVHS technologies which are aimed directly at improving safety. These estimates range from $2.8 to $5.6 billion annual cost reductions (1992 dollars) for the year 2011. The total figure should be much higher because we still have not developed good estimates of the safety benefits of technologies which are directed at congestion reductions (e.g., incident management) and we know there is strong relationship between congestion and accidents.

Mr. Carr. What are the best estimates concerning the savings we can expect to see from IVHS in terms of reduced fatalities and economic improvements from reduced congestion and better air quality?

[The information follows:]

We estimate that about 3,300 lives could be saved annually by the year 2011 based on our assessment of the potential number of fatalities forestalled by implementing IVHS technologies directly targeted on safety. We believe this is a very conservative estimate because it does not include accidents prevented by the use of improved traveler information and guidance systems, making fewer stops at intersections, etc. We can reasonably expect that average trips should take less time and involve fewer conflicts, through more efficient travel management. Estimates of reduced exposure of only 5 percent should lead to more than 2,000 fatalities forestalled annually. Such safety benefits should be realized even during early deployment of IVHS technologies where advanced traffic management and traveler information systems are implemented.

Economic improvements from IVHS deployment were expected within only a few years. The greatest short-term gains can be expected from implementing a truck transport network with transparent borders. This is estimated to result in National cost reductions, based largely on labor cost savings. Most of these gains will be for intercity goods movement. In urbanized areas, truck operators are expected to gain early benefits from traveler information and guidance system. A five percent reduction in travel time for such trips could be realized in about 35 of our largest cities by the year 2001.

Potential air quality benefits are just beginning to be quantified. It is difficult to develop credible estimates of the largest highway vehicle contributions of poor air quality due to the lack of integrated traffic-emissions-planning models. However, we do have some indication of the potential magnitude of benefits based upon limited field tests and experience. The INFORM project on Long Island, New York, has produced estimates of 8–15 percent reductions in carbon monoxide and hydrocarbons, primarily by reducing stop and go traffic and obtaining increased traffics flows at moderate speeds. In California, systematic maintenance of signals and signal timing has produced the same levels of benefits.

Mr. Carr. How do you respond to the observation that the congestion relief which should result from IVHS may just encourage more automobile travel, thus negating the gains?

[The information follows:]

We do believe that the deployment of ATMS and ATIS user services will lead to substantial increases in automobile travel demand. The improvements that can be realized through these types of services while substantial will not free sufficiently large capacity to greatly influence travel demand, certainly not to the extent that the building of the Interstate System did. Several ATIS and APTS user services also focus on improving access to information on public transportation, including carpools and vanpools, to increase use.

It is not clear to us that the goals of accommodating increased travel demand and improving air quality must necessarily be mutually exclusive. Even if one argues that the two goals directly conflict, other issues must also be considered, including the economic, safety and social benefits that IVHS services would provide, and the possibilities of achieving reduced emissions through new or improved emission controls, vehicle propulsion systems and fuels.

We would agree that deployment of an extensive Automated Highway System (AHS) could encourage significantly more automobile travel. However, many changes in vehicle propulsion systems, including the possibility of electrification, could occur before AHS is ready to be deployed. This will certainly be an important issue to track as AHS development proceeds, but is premature to make any judgments about relationships between AHS automobile travel demand and air quality.

IVHS BENEFITS

Mr. CARR. The IVHS Strategic Plan contains the following comment: "Benefits of IVHS, while potentially enormous, are difficult to quantify without further study: Continuing work should be undertaken."

How large a concern do you think this is? What is being done to address this issue and what more do you think should be done?

[The information follows:]

Efforts are underway to reduce our uncertainly about some of the benefits which can accrue from IVHS deployments. Three basic approaches are being taken. First, as a result of increased funding from the Congress last year, we have accelerated the development of traffic models which will allow us to capture the benefits of real time information and control systems. Second, we have made a concerted effort to integrate existing traffic, air quality, planning models, and safety estimation procedures to improve our overall estimates of IVHS payoffs from public investments. Third, we are strengthening our requirements for conducting evaluations of the National IVHS operational field tests. We are also attempting to learn as much as possible from European and Asian tests and evaluations of similar technologies.

We see opportunities for more cooperative efforts with Europeans and are beginning to work with DRIVE program staff. There also should be opportunities to work jointly with managers and researchers in other Federal programs, such as those providing technical support and modeling efforts at the Environmental Protection Agency.

Even with these initiatives, carefully coordinated data gathering and model development is required. Operational field tests must be selected on the basis of opportunities for testing new technologies, but also selected to improve our knowledge about the benefits and possible drawbacks of implementing such technologies. There is also considerable effort required to complete and validate models, now under development, and substantial effort is required to formulate credible models for predicting safety impacts of applying IVHS technologies.

IVHS AND CONGESTION RELIEF

Mr. CARR. The percentage of congested peak-hour travel on urban interstates increased from about 55 percent to more than 70 percent from 1983 to 1991, and this growth in congestion gives rise to substantial costs. A July 1992 report by the Texas Transportation Institute estimates that in 1989, the total cost of congestion for the 50 urban areas studied was $39 billion. Delay accounted for about 85 percent of this amount, while excess fuel consumption accounted for 15 percent.

To what extent is the Intelligent Vehicle/Highway System (IVHS) research effort expected to alleviate the growth in congestion?

[The information follows:]

"Business as usual" projections of travel on freeways indicate that without substantial improvements that, by the year 2005, trips could take from 2 to 4 times as long as they do now. About two-thirds of the traffic delays are the result of what is now classified as non-recurring incidents. Incident management programs are being developed by many States and local agencies. These programs are reducing the duration of incidents and the resulting congestion. We are placing emphasis on determining if there are patterns in the time or location of incident occurrences and on the early detection of incidents. This information will permit State and local transportation agencies to manage traffic more efficiently. Also, as more reliable and direct communications becomes available through deployment of advanced traffic management and traveler information services, we expect to be far more effective in rerouting vehicle users. Rerouting includes diversion of motorists from their cars. One potential form of diversion is to direct motorists to "ride and park" lots to pick up transit for the remainder of trips. The estimated magnitude of such shifts is not known, but it is believed that credible information provided to travelers will result in substantially greater modal shifts than previously experienced.

Mr. Carr. What are the major congestion payoffs expected from IVHS research and when will they be realized?

[The information follows:]

Congestion relief from IVHS deployment will occur gradually. The earliest benefits will be achieved from substantial upgrading of coordinated traffic control systems in the 74 largest metropolitan areas of the country. Improved sensing and surveillance will allow implementation of adaptive feature of systems being developed, both by us, and overseas. Over 30 of our cities are now planning for such upgrades. The first model system which incorporates many of the key features of a prototype Advanced Traffic Management System is the "Smart Corridor" in Los Angeles. It should be operative within a year. Within this corridor, it is anticipated that modest gains will be achieved, prior to broader implementations in the region.

Other larger cities are expected to have implemented much of this technology within the first few years of the next decade. Combining advanced traveler information, advisory, and coordination systems with this advanced traffic management technology will take place in the same time period. The accumulated benefits of these deployments are expected to provide major congestion relief in more than half of our major cities by the year 2001. In these cities, we expect that by 2001 that a 20-percent reduction in travel delays can be realized.

The earliest deployment of automated highways in these urbanized areas is expected to reduce average travel times by one-quarter to one-half of current travel times. The overall impact of such savings will not be realized without a commitment to major construction of the infrastructure for such facilities.

Mr. Carr. How great is the possibility that IVHS may reduce congestion to the point that it merely encourages more drivers to take to the roads?

[The information follows:]

In our response to your earlier question on this subject we indicated that reduced congestion and improved service could very well lead to more drivers driving alone or induced travel. We believe it is essential to provide credible and reliable options to use of an automobile and that IVHS contribute to providing a balanced, intermodal transportation system.

RESEARCH ON CONGESTION

Mr. Carr. What other promising research techniques offer promise for dealing with congestion?

[The information follows:]

Apart from the research and development efforts we are undertaking on IVHS, we believe that methods for substituting communication for transportation offers great promise for reducing congestion; maintaining mobility, safety, clean air, economic productivity; and helping to meet the other goals of the IVHS program. The tie-into IVHS of communications technologies and their applications (e.g., teleconferencing and telecommuting) is becoming more apparent as these programs move forward.

Congestion pricing strategies shares much of technology which supports some of the IVHS services. It provides an economic component which is not a part of the IVHS program. The potential of such pricing techniques are great if they are socially and politically acceptable. Experience in other parts of the world with implementing such programs is not very reassuring. Hopefully the Congestion Pricing pilot programs being conducted in the U.S. will give us good information on their potential in this country.

CONGESTION PRICING AGREEMENTS

Mr. Carr. What types of projects are being generated in response to the authorization in ISTEA for up to five congestion pricing agreements?

[The information follows:]

In response to a solicitation published by FHWA in the November 24, 1992 Federal Register, proposals were received for 16 urban areas. These proposals fell into five general project categories:

- **Full Facility Demand Pricing** proposals showed at least some aspect of using peak-period tolls on congested facilities to charge vehicles for their contribution to congestion.

- **HOV Buy-in** proposals involved a toll system that would allow single occupant vehicles (SOV's) to pay a toll to use under-utilized separated High Occupancy Vehicle(HOV) lanes during congested times on the parallel general purpose lanes. Some of the proposals in this category called for converting existing HOV lanes to HOV/Express lanes; others entailed pricing on yet to be constructed HOV lanes.

- **Feasibility Study** proposals were essentially designed to study congestion pricing options, with little or no commitment to implementing specific applications of congestion pricing included in the proposal.

- **HOV/ETTM User Toll Reduction** proposals involved reducing tolls during peak periods on existing tollways for HOV users and for users of Electronic Toll and Traffic Management (ETTM) equipment. Federal funds would be used for the installation of ETTM equipment and to compensate the toll authority for revenue losses associated with toll reductions.

- **Other** proposals called for implementation of parking pricing with no road pricing component, and the pricing of new lanes to be added to an existing non-tolled highway.

The Interagency Review Group determined that many of the proposals did not respond well to the Pilot Program criteria contained in the November 24 Notice, either because they had little or no commitment to the implementation of road pricing projects, or did not indicate a commitment to set charges high enough to influence road use choices. In addition, some proposed projects were unlikely to be implemented in time to allow evaluation information to be developed for FHWA to report to Congress on the effectiveness of Pilot Projects prior to the expiration of the Intermodal Surface Transportation and Efficiency Act of 1991 (ISTEA). As a result, only the proposal submitted jointly by the California Department of Transportation and the Metropolitan Transportation Commission was selected during the initial solicitation for further negotiation of a congestion pricing pilot project.

The proposed project will raise peak-period tolls on the Oakland-San Francisco Bay Bridge. The project will also contain significant transit enhancement, public outreach, and monitoring/evaluation elements. The Interagency Review Group believes that the Bay Area proposal manifests "a clear intent to use congestion charges to encourage driver behavior in a manner that will promote the use of alternative times, routes, modes, or trip patterns to reduce congestion."

TRANSPORTATION MANAGEMENT AND CONTROL

Mr. CARR. ISTEA gives States and local officials increased funding and flexibility to choose the best mix of transportation projects to meet local needs to reduce congestion and improve air quality. Development and implementation of transportation management and control projects can be funded from the national highway system, the surface transportation program, and the congestion mitigation and air quality program.

What is the Department doing to encourage States and localities to include transportation management and control projects in their plans as opposed to relying on building new roads to meet traffic needs?

[The information follows:]

The Department, through the Federal Highway Administration (FHWA) uses a variety of ways to encourage transportation management and control projects - commonly referred to as congestion management programs. Some of the successful methods have been:

* The benefits of congestion management programs in mitigating congestion have been well documented. The operational programs, their benefits, and their implementation is explained during speeches and presentations at meetings and conferences such as those held by the National Incident Management Coalition, the Transportation Research Board, the Institute of Transportation Engineers, National Highway Institute training courses, etc. A wide variety of influential leaders, policy makers, traffic engineers, enforcement, fire and other officials usually attend from the metropolitan areas where they are held, assuring that the information is widely disseminated.

* Congestion management benefits have been widely circulated through technical associations such as the Institute of Transportation Engineers, Transportation Research Board, etc.

* IVHS Specialists assigned to FHWA region and division offices provide "marketing" of congestion management technologies, resulting in projects throughout the country.

* The congestion management system (CMS) as required under ISTEA will require that State and local agencies to include congestion management programs into their transportation plans and program of projects. This coupled with the requirements of the Clean Air Act of 1990 will encourage state to seek other ways to meet the travel demand then building more roads. The FHWA is providing extensive technical assistance and training to state and local agencies on the most cost-effective congestion management techniques meet the requirements. For example, the FHWA provides training in Freeway Traffic Management, Travel Demand Management, High Occupancy Vehicle Lane Design and Operation, Incident Management, and Access Management. Other related courses are either being taught or are being developed for the near future.

* Through technology transfer efforts, the FHWA actively promotes awareness and benefits of congestion management to all areas, including large and small metropolitan areas as well as rural jurisdictions. Demonstration projects are being developed to acquaint States and local areas with the application of new procedures and technology, providing practitioners with hands-on experience using selected hardware, software, techniques, etc. Currently, two of the most successful demonstration projects are (1) Demonstration Project No. 86 on Incident Management, and (2) Demonstration Project No. 93 on Traffic Control Hardware and Software.

* Grant programs are supported jointly with the Federal Transit Administration to demonstrate and provide seed money for innovative, intermodal projects. Many of the projects funded under this program are oriented to congestion management and include Videotext, Telecommuting, Advanced Vehicle Identification System, and Advanced Traveler Information Systems. The evaluations and project reports from these grant projects will be made available to the State and local governments to help guide their thinking on the applications congestion management technology.

Mr. CARR. What types of transportation control measures are being carried out under the various ISTEA programs and to what extent? Please provide funding by program category.

[The information follows:]

A number of transportation control measures are funded under the ISTEA's flexible-funding provisions. The types of projects funded include high-occupancy vehicle facilities, park-and-ride and fringe parking facilities, area-wide rideshare incentive, bicycle and pedestrian programs, and programs for activity centers and special events.

Although funds for such projects may be obligated from the National Highway System and the Surface Transportation Program, the largest portion of these funds currently comes from the Congestion Mitigation and Air Quality Improvement Program (CMAQ).

In FY1992, CMAQ funds were used for the following types of transportation control measure projects:

Transit vehicles and transit station and signal improvements,
High Occupancy Vehicle lane development,
Traffice surveillance and incident management programs,
Taffic signalization and intersection improvements,
Ridesharing programs,
Bicycle paths and pedestrian walkways, and
Park-and-ride lots for transit and ridesharing.

A total of $568.1 million in CMAQ funds have been obligated to date. Of the $340 million obligated in FY1992, 58 percent has been used for transit-related projects, 40 percent for highway and road projects, and 2 percent for other types of congestion mitigation programs, such as bicycle/pedestrian projects and others.

Mr. CARR. Has the Department developed and made available to States and localities criteria to aid them in choosing the transportation control measure(s) that would be most cost-effective for particular situations?

[The information follows:]

The Department has developed, singly and in concert with other Federal agencies, materials to assist implementing entities in selecting transportation control measures.

The Department worked closely with the Environmental Protection Agency (EPA) in the preparation of the "Transportation Control Measure Information Documents," issued in May 1992. These documents survey the extant literature on such measures, and provide implementation guidance.

The Federal Highway Administration and Federal Transit Administration are jointly developing transportation demand management technical assistance and guidance materials. The materials include guidance documents to assist both the public and private sectors in implementing cost-effective programs and a microcomputer model to analyze the traffic impacts of potential programs to develop the most effective package of actions. The materials also will include a reference document which presents the experience of available programs and a video to explain the concepts of transportation demand management to upper management in the public and private sectors.

The Department is supporting an analysis in California of market-based transportation control measures to reduce travel demand, and excepts the results to be usable nationally in evaluations of various strategies.

Together with the EPA, the Department has sponsored a study of the cost-effectiveness and pollution reduction potential of transportation control measures. This report, currently underway, should be completed by autumn 1993.

The Department is preparing a series of transportation control measure case studies which will explore the effectiveness, both in terms of cost and emissions reductions, of various strategies.

Mr. CARR. Does the Department have any performance measures for determining what is being achieved for the money spent on the various transportation control measures?

[The information follows:]

Evaluations of the effectiveness of transportation control measures are usually performed using a standard of tons reduced of a given pollutant. Such criteria are used for evaluations of ozone (O_3), carbon monoxide (CO), and particulate matter (PM_{10}), the most common regulated transportation-related pollutants.

COMPUTERIZED TRAFFIC SIGNALS

Mr. CARR. How many urban areas have computerized traffic signals? What is the condition of the traffic signal systems in urban areas? What amounts of ISTEA funds are being used to improve traffic signal systems?

[The information follows:]

Most urbanized areas (50,000 population and above) have some form of a signal system that is centrally controlled; however, we do not have complete data on all urban areas (5,000–49,999 population). Even in urbanized areas, there are some notable locations which do not have computerized, centrally controlled signal systems:

Chicago, IL—In the process of developing specifications to acquire a computerized system.

Denver, CO—No plans at this time.

Fairfax, VA—Preliminary plans are underway.

Philadelphia, PA—Specifications for a system are complete, bid letting to follow shortly.

Pittsburgh, PA—Same as above.

San Francisco, CA—Same as above.

A majority of the current systems in operation are over 15 years old. Therefore, the hardware is obsolete and in need of replacement. With the advent of advance computer technology, most of the existing mini computer-based systems can be upgraded to super micro or micro computer-based systems.

A recent survey through our field offices indicated that there are several examples where ISTEA funds are being used or planned for arterial or freeway control systems. Regarding funding for freeway Traffic Management Centers, for example, the following information was compiled:

EXISTING TRAFFIC MANAGEMENT CENTERS (UPGRADE)

INFORM, Long Island, NY—STP Funding.
Chicago, IL—CMAQ Funding.
Detroit, MI—CMAQ Funding.
Minneapolis/St. Paul—CMAQ Funding.

NEW TRAFFIC MANAGEMENT CENTERS (PLANNING AND/OR CONSTRUCTION)

Milwaukee, WI—CMAQ Funding.
Cincinnati, OH—CMAQ Funding.
Houston, TX—CMAQ or NHS Funding.
Phoenix, AZ—Two-Year Operational Provision.

FUTURE TRAFFIC MANAGEMENT CENTERS

Toledo, OH—CMAQ Funding & STP Funding.
San Antonio, TX—CMAQ or NHS Funding.
EL Paso, TX—Category Presently Undecided.

PAVEMENT CONDITION

Mr. CARR. The Department of Transportation's 1993 report, *The Status of the Nation's Highways, Bridges, and Transit: Conditions and Performance,* advised the Congress that while substantial variation existed among the States as to the amount of pavement that needed improvement or soon will need improvement, the percentage of pavement mileage in poor condition in most States had declined over the past few years. An accompanying table on Interstate pavement in poor condition, Exhibit 3–16, showed that some States had reported remarkable changes in Interstate pavement condition within a two-year period, which is illustrated by the following excerpt:

[The information follows:]

PERCENT OF INTERSTATE PAVEMENTS IN POOR CONDITION

	1989	1991
State:		
Alaska	26.4	5.1
Arizona	27.4	1.2
Colorado	7.6	30.3
Georgia	11.7	0.0
Michigan	10.7	19.0
Nevada	33.9	11.6
New Mexico	1.3	38.1
North Dakota	0.2	32.2
Rhode Island	31.4	1.4
Vermont	18.7	5.9
Wisconsin	18.6	0.0

Mr. CARR. How does the Federal Highway Administration account for such significant swings in the percentage of Interstate pavement in poor condition reported by some States within the two-year period?

[The information follows:]

The use of the Present Serviceability Index (PSR) for evaluating pavement condition has a recognized weakness. PSR is a subjective measure of pavement ride quality, and can be arrived at by a variety of procedures. States have attempted to improve their estimation of PSR values by changing their procedures from time to time. Unfortunately, this invalidates comparisons with previous years data. While it is possible for a substantial amount of pavement to deteriorate from "mediocre" to "poor" in a 2-year period, a large percentage change is suspect. A large decrease in the percentage of poor pavement would not likely occur unless a large pavement improvement program was undertaken during the time period in question.

A more objective measure, the International Roughness Index (IRI) is now being required for all rural arterial highways and urban Interstate and other freeways and expressways. This is a measured roughness index, with specific requirements regarding the accuracy and calibration of the measuring equipment. The increased use of measured pavement roughness (IRI) in the future will largely eliminate State-to-State and year-to-year variations that have been a problem with the PSR estimate of pavement condition.

Mr. CARR. What is FHWA doing to validate the reliability of the condition of Federal-aid highways?

[The information follows:]

The FHWA division offices in each State conduct surveys of a portion of each of the HPMS sample sections each year. This is done to minimize errors in data reporting. It does not necessarily detect differences among the various States PSR reporting procedures. Our Region offices attempt to address that problem by evaluating the procedures of the various States within the region.

At the national level, we evaluate the data from each State every year. When large, unexplained differences occur, we question the State about these apparent anomalies, and attempt to obtain a satisfactory reason or a correction of the data, if it is acknowledged to be in error. As the number of years of historical data increase, anomalies become more apparent and can be more readily identified and the errors corrected.

PAVEMENT CONDITION DATA

Mr. CARR. When a State shows no Interstate pavement in poor condition, does this indicate no poor Interstate pavement exists in the State, or is it a case of missing information? If the latter, what is FHWA doing to capture such condition data?

[The information follows:]

It is possible for a State to have no poor Interstate pavement, but such reporting does raise cause for question. The HPMS is a sample data base, and Interstates are currently sampled at a rate of approximately 50 percent. If there are few sections of poor Interstate pavement statewide, these could occur on other than HPMS sample sections. While the sample procedures have been designed to provide statistically valid results, it is possible for poor sections to exist that are not included in the sample. The sampling error for Interstate is generally 5 percent, so that statistically there could be 5 percent poor pavement when the data shows no poor pavement. In the future, the reporting of 100 percent of the Interstate highway mileage will include all pavement sections and avoid this problem.

Mr. CARR. What efforts has FHWA made, or planned, to assure comparability when States assess the condition of their Federal-aid highways?

[The information follows:]

A more objective measure, the International Roughness Index (IRI) is now being required for all rural arterial highways and urban Interstate and other freeways an expressways. This is a measured roughness index, with specific requirements regarding the accuracy and calibration of the measuring equipment. However, it measures only roughness, and does not necessarily capture other pavement distress such as cracking, rutting, etc., unless roughness is directly affected by the distress. States are now furnishing a significant amount of IRI data, and this data element will play a more prominent role in the future.

This requirement does not extend to urban surface streets, because the equipment must be operated at a constant speed, e.g. 35 or 55 miles per hour. This is not feasible on many surface streets because of the presence other traffic, and traffic signals, and other disruptions. However, we encourage the States to report IRI for all paved streets and highways where such measurement is practicable.

The increased use of measured pavement roughness (IRI) in the future will largely eliminate State-to-State and year-to-year variations that have been a problem with the PSR estimate of pavement condition.

METRIC CONVERSION

Mr. CARR. What is the Federal Highway Administration doing to comply with the terms of the Omnibus Trade and Competitiveness Act, which requires government agencies to begin using the metric system unless it is too inefficient or impractical?

[The information follows:]

The Omnibus Trade and Competitiveness Act of 1988 requires metric conversion for all Federal Government procurements, grants, and other business-related activities except when such use is impractical or likely to cause significant inefficiencies or loss of markets to U.S. firms. Executive Order No. 12770 signed July 25, 1991, requires all Federal agencies to formulate transition plans.

On June 11, 1992, FHWA published a Federal Register notice of its metric conversion policy and plan. The intent is to promote an orderly changeover to the metric system in accordance with statutory requirements and the Executive Order, and to authorize the use of Federal-aid funds to reimburse States for costs incurred in the metric conversion process to the maximum extent allowable under Federal law.

Pursuant to FHWA's approved plan all Federal Lands and Federal-aid construction contracts authorized after September 30, 1996, must use metric units of measurement. We have been coordinating our conversion activities closely with AASHTO to assure the transition is accomplished with minimal disruption and by the least cost method practical.

A majority of the State DOTs have now made significant progress toward implementing metric in their planning, design and construction activities.

One issue that has received attention from State DOT's and the public has been the conversion of messages on highway signs to metric.

At present, no decision has been made regarding a change to metric signing.

The FHWA must use the *Federal Register* rulemaking process when adopting changes or additions to national traffic control sign standards for streets and highways. Therefore, when a change is proposed, the public will be advised through a *Federal Register* notification and have the opportunity to comment. We are considering issuance of an Advanced Notice of Proposed Rulemaking on signs later this year.

Depending upon comments received, if the decision is made to proceed with the change to metric signing, a public information/education effort will be initiated to prepare the public for the conversion.

FHWA INVOLVEMENT WITH STATES

Mr. Carr. Under section 1016 of ISTEA, a State has considerable flexibility in establishing the degree to which the Federal Highway Administration will be involved in the development of Federal-aid highway projects. Has FHWA stated that its framework recognizes that with an expanding program and the increased capabilities of the States, it is time to share more of the project review, oversight, and administration responsibilities?

[The information follows:]

Our implementing guidance for Section 1016 clearly recognizes that an expanding program and the increased capabilities of the States coupled with the flexibility provided by ISTA have given us an opportunity to share more of the project review, oversight and administration responsibilities with the States. The States have been strongly encouraged to accept the maximum degree of flexibility available for project review, oversight and administration consistent with their individual capabilities.

Mr. Carr. How many States have elected to assume more oversight and administrative responsibilities for Federal-aid highway projects?

[The information follows:]

To date, nearly four-fifths of the States have taken advantage of the new oversight option and have exempted the Federal Highway Administration (FHWA) from oversight of projects off the National Highway System (NHS). In addition, slightly over half of the States have exempted the FHWA from oversight of low-cost NHS projects. Nearly half the States are also using the certification acceptance process, which existing prior to the passage of the ISTEA, to limit FHWA's oversight role on higher-cost NHS projects.

Mr. Carr. What typical review, oversight, and administrative responsibilities are the States assuming?

[The information follows:]

The States assume responsibility for developing the design of a project, approving a project's design, overseeing projects and administering contracts. Typically this removes Federal Highway Administration oversight of design activities, plans, specifications and estimates (PS&E) approval, concurrence in award, and construction activities on individual projects.

Mr. Carr. What is the outlook for States continuing to exercise more self-administration of their Federal-aid highway projects?

[The information follows:]

Initial acceptance by the States of this new oversight responsibility is very encouraging. Our goal is to have all States under some form of oversight exemption within the next two years.

FHWA STAFF REQUIREMENTS

Mr. Carr. If States are assuming more Federal responsibilities, what effect does this have on FHWA's role and staff requirements?

[The information follows:]

As the States elect to assume more responsibility for design and construction of projects, the Federal Highway Administration's (FHWA) oversight role on individual project development is greatly reduced. FHWA division offices report they are handling significantly less paperwork. In addition, freed from routine project evaluations on many State and local projects, division staff have been able to devote more staff resources and offer more expertise to the National Highway System projects where there is a higher Federal interest. Further, staff resources are now available to focus on other important issues such as safety, innovative and effective research, implementation and marketing of technology, and implementation of the new environmental and statewide and metropolitan planning requirements of the ISTEA.

RADAR DETECTORS

Mr. CARR. The 1992 Department of Transportation Appropriations Act required DOT to publish a proposed rulemaking to prohibit the use of radar detectors in operating commercial vehicles. The proposed rulemaking was published on January 24, 1992, with comments due by May 26, 1992. What is the current status of this rulemaking?

[The information follows:]

The FHWA received more than 26,000 responses to the notice of proposed rulemaking to ban the use of radar detectors in commercial motor vehicles. These comments which represent both sides of the issue are currently being analyzed.

Mr. CARR. Do you know how many trucks use radar detectors?

[The information follows:]

No. The number of detectors actually in use is unknown.

Mr. CARR. Are data available showing the relationship between accidents and speed, particularly in commercial vehicles?

[The information follows:]

There is no definitive data which directly links speed as the single cause of accidents in commercial motor vehicles. We do know that when a driver is speeding, reaction time is slower which could be the difference between an accident occurring or not occurring. We also know that the severity of an accident is greater when speeding is a contributing factor.

The FHWA has conducted a number of studies over the past 25 years which indicate that crash risk is associated with variations from the mean speed.

The National Highway Traffic Safety Administration has completed two reports on speed related accidents: "Commercial Motor Vehicle Speed Control Devices", dated May 1991, and "Data Analysis of the Speed-Related Crash Issue", dated November 1991. The May 1991 report found that involvement rates in speeding-related crashes are relatively low for combination-unit trucks. For example, the combination-unit truck involvement rate for all crashes with police-reported speeds of greater than 70 mph was on the order of 0.3 per 100 million vehicle miles traveled (VMT) in 1988–1989. The comparable statistic for passenger vehicles was approximately 2.4 per 100 million VMT. For fatal crash involvements, the estimated rates were 0.03 per 100 million VMT for combination-unit trucks and 0.19 for passenger vehicles.

The November 1991 report used data from the Fatal Accident Reporting System (FARS) to determine the relative role of speeding in crash causation. The report found (based on 1989 FARS data) that among vehicle types, speed-related crashes are most frequently associated with motorcycle drivers. Over 45 percent of all motorcycle drivers involved in fatal crashes were speeding. The involvement of speed in fatal crashes for motorcycles is almost twice as much for drivers of the next vehicle type, passenger cars and light trucks (23 percent). Speeding was found to be much less likely for drivers of medium and heavy trucks involved in fatal crashes (11 percent).

An important caveat relating to the speeding-related crash statistics cited in both reports is that the categorization "in excess of the posted speed limit" or high-speed related" does not necessarily indicate that speeding was the primary cause of the crash or resulting fatalities.

STATES THAT BAN USE OF RADAR DETECTORS

Mr. CARR. How many States currently prohibit the use of radar detectors?

[The information follows:]

Currently, only Virginia and the District of Columbia ban the use of radar detectors in all vehicles. New York bans radar detectors in commercial vehicles. Connecticut, in June 1992, eliminated its total radar detector ban, but is now considering a ban on detectors in commercial motor vehicles.

LOCAL FUNDS

Mr. DeLay. Plans are very much moving ahead for the much-needed expansion of NASA Road 1, which runs through part of my district. This road connects the Johnson Space Center and its new visitors center to the major Interstate that serves southeast Houston, I-45. This road also serves as the only hurricane evacuation route for those who live near Galveston Bay.

Last year, this committee approved language that directed the Secretary to, and I quote, ". . . waive the non-Federal share for NASA Road 1 near Houston, Texas." This was done in order to move this much-needed project to the front burner. This was done in light of the fact that several of the local communities are very small and would require huge sums of capital for the project to move forward.

Given the emergency nature of this improvement, I felt and the Committee believed, this waiver was necessary.

Well, believe it or not, there remains some confusion on just what is and is not "local funds." Can you give me a clarification on exactly what is "local funds"? Are State funds "local funds"? I understand that the Federal portion is a minimum 80–20 match. But what I want to know is, if you waive the non-Federal match, precisely who pays for what?

[The information follows:]

Section 375 of Title III of the Department of Transportation and Related Agencies Appropriations Act, 1993 (Public Law 102–388, 106STAT.1562) reads:

Notwithstanding any other provision of law, the Secretary is directed to waive the non-Federal share for NASA Road 1 near Houston, Texas.

This means that the Federal Government will pay 100 percent of the costs for the NASA Road 1 project.

It is important to recognize, however, that the Federal-aid highway program in a reimbursable program. As such, a State (or local government working through the State) must first incur costs for eligible project activities, after which the State bills the Federal Highway Administration for the Federal share of these costs.

EPA ENVIRONMENTAL CONCERNS

Mr. DeLay. The EPA has argued to me that the Grand Parkway, which eventually will be an extreme outer loop around Houston, should have several layers of Environmental Impact Statements completed before construction begins on some 12 remaining segments. Thus far, the requirement has been what it is everywhere else in the Nation—one EIS for the project under consideration. The EPA has stated that in addition to the one EIS per segment, there should be one complete EIS for the entire project before construction moves forward. What role, if any, does the FHWA have in dealing with EPA environmental questions regarding the construction of a highway?

[The information follows:]

FHWA has Federal lead agency responsibilities for assuring compliance with the National Environmental Policy Act (NEPA) requirements for actions which are proposed by State Highway Agencies when Federal-aid highway funds are to be used for construction or when approval of a Federal-action will be required by FHWA. Through cooperating agency procedures, the EPA is consulted at various stages in the NEPA process to obtain their reviews and comments on the proposed project or action. This involvement with EPA begins early in the development of a project, during the scoping process, and is continued through the Draft and Final Environmental Impact Statements and the issuance of a Record of Decision.

During the scoping of the EIS for a segment of the Grand Parkway project, a 170 mile circumferential highway around Houston, Texas, the EPA expressed concern that FHWA was not complying with the regulations of the Council on Environmental Quality because a tiered EIS approach was not being used. EPA also suggested that a single EIS document for the entire Grand Parkway should be prepared, not project sections.

Due to the length of the Grand Parkway project and the questionable ability to adequately address the magnitude of possible environmental concerns in a single document, FHWA in cooperation with the TxDOT, made the determination that the first section of the project, section I–2, did meet the requirements of the CEQ regulations as an independent project. It has independent utility or significance, logical termini, and does not foreclose or restrict the consideration of alternatives for other reasonably foreseeable transportation improvements.

It was also decided that a tiered EIS process would not be required. The CEQ regulation does not require tiering of EIS's, they merely entrust the procedures to the discretion of the agency. It was not considered necessary to include a detailed discussion of other Grand Parkway project segments beyond those needed for appropriate coverage of cumulative impacts, with the NEPA document for the section I–2 project. However, it was agreed that an executive environmental overview would be prepared in the interest of comprehensive, coordinated planning and environmental consideration.

OBLIGATIONS BY MONTH

Mr. CARR. Please provide a table showing month-by-month obligations for the Federal-aid-highways program (along with cumulative percentages) for fiscal years 1992 and 1993 to date.

[The information follows:]

	Obligations	Percent obligated
Fiscal year 1992:		
October	$455,088,361	2.50
November	654,177,620	6.17
December	944,632,885	11.47
January	2,285,364,052	24.30
February	1,493,152,745	32.69
March	1,431,613,478	40.72
April	1,485,607,265	49.06
May	1,518,395,836	57.59
June	1,725,882,532	67.28
July	1,435,183,657	75.33
August	1,654,567,771	84.62
September	2,739,060,691	100.00
Total	17,812,726,893	
Fiscal year 1993:		
October	773,072,727	4.38
November	1,008,935,059	10.09
December	690,840,841	14.00
January	2,466,378,641	27.96
February	1,979,695,463	39.16
March	1,409,611,306	47.14
April		
May		
June		
July		

	Obligations	Percent obligated
August		
September		
Total	17,688,425,000	

FY 1994 FEDERAL-AID HIGHWAYS OBLIGATION LIMITATION

Mr. CARR. Please provide a table which reflects an estimated State-by-State distribution of the Federal-aid Highways obligation limitation as proposed in your fiscal year 1994 budget request; include columns showing limitation, the investment initiative, and a total.

[The information follows:]

Following is a table which shows an estimated State-by-State distribution of our proposed fiscal year 1994 Federal-aid Highways obligation limitation.

U. S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

ESTIMATED FY 1994 OBLIGATION LIMITATION

STATES	FY 1994 LIMITATION	INVESTMENT INITIATIVE LIMITATION	TOTAL LIMITATION
ALABAMA	224,450,321	42,097,777	266,548,098
ALASKA	176,150,944	33,038,773	209,189,717
ARIZONA	179,301,366	33,629,664	212,931,030
ARKANSAS	141,307,115	26,503,483	167,810,598
CALIFORNIA	1,233,322,423	231,321,266	1,464,643,689
COLORADO	172,997,073	32,447,235	205,444,308
CONNECTICUT	279,303,036	52,385,921	331,688,957
DELAWARE	57,925,412	10,864,458	68,789,870
DIST. OF COL.	78,725,220	14,765,658	93,490,878
FLORIDA	481,077,443	90,230,617	571,308,060
GEORGIA	367,157,477	68,863,852	436,021,329
HAWAII	100,527,963	18,854,968	119,382,931
IDAHO	92,963,954	17,436,268	110,400,222
ILLINOIS	498,501,536	93,498,670	592,000,206
INDIANA	269,593,368	50,564,782	320,158,150
IOWA	175,504,832	32,917,589	208,422,421
KANSAS	160,320,276	30,069,582	190,389,858
KENTUCKY	200,880,228	37,676,984	238,557,212
LOUISIANA	214,306,666	40,195,239	254,501,905
MAINE	70,202,653	13,167,170	83,369,823
MARYLAND	213,951,182	40,128,564	254,079,746
MASSACHUSETTS	877,163,525	164,520,302	1,041,683,827
MICHIGAN	356,869,659	66,934,274	423,803,933
MINNESOTA	196,882,050	36,927,088	233,809,138
MISSISSIPPI	153,981,955	28,880,769	182,862,724
MISSOURI	296,349,074	55,583,067	351,932,141
MONTANA	136,255,858	25,556,073	161,811,931
NEBRASKA	115,529,800	21,668,705	137,198,505
NEVADA	86,862,340	16,291,852	103,154,192
NEW HAMPSHIRE	67,985,990	12,751,414	80,737,404
NEW JERSEY	405,990,699	76,147,389	482,138,088
NEW MEXICO	148,439,892	27,841,303	176,281,195
NEW YORK	759,666,946	142,482,709	902,149,655
NORTH CAROLINA	324,977,019	60,952,509	385,929,528
NORTH DAKOTA	87,299,329	16,373,813	103,673,142
OHIO	472,565,321	88,634,088	561,199,409
OKLAHOMA	182,198,350	34,173,021	216,371,371
OREGON	165,409,043	31,024,027	196,433,070
PENNSYLVANIA	581,126,082	108,995,684	690,121,766
RHODE ISLAND	88,800,730	16,655,415	105,456,145
SOUTH CAROLINA	174,912,025	32,806,402	207,718,427
SOUTH DAKOTA	93,708,860	17,575,981	111,284,841
TENNESSEE	275,146,612	51,606,345	326,752,957
TEXAS	863,075,879	161,878,030	1,024,953,909
UTAH	105,308,091	19,751,527	125,059,618
VERMONT	62,124,565	11,652,048	73,776,613
VIRGINIA	264,524,170	49,614,006	314,138,176
WASHINGTON	272,211,469	51,055,832	323,267,301
WEST VIRGINIA	132,360,126	24,825,391	157,185,517
WISCONSIN	245,482,715	46,042,600	291,525,315
WYOMING	94,293,119	17,685,565	111,978,684
PUERTO RICO	67,668,735	12,691,906	80,360,641
SUBTOTAL	13,543,640,516	2,540,237,655	16,083,878,171
ADMINISTRATION	488,961,000	0	488,961,000
FEDERAL LANDS	438,000,000	0	438,000,000
ALLOCATION RESERVE	1,269,970,484	117,190,345	1,387,160,829
TOTAL	15,740,572,000	2,657,428,000	18,398,000,000

NOTE: THE FY 1994 OBLIGATION LIMITATION IS BASED ON FY 1993 APPORTIONMENTS. AMOUNTS WILL CHANGE WHEN ACTUAL FY 1994 APPORTIONMENTS/ALLOCATIONS ARE MADE.

EXPERIMENTAL PAVING TECHNIQUES—ROCK CREEK PARKWAY

Mr. CARR. Update the information included on page 383 of the 1993 hearing volume regarding the paving experiment conducted in and around Rock Creek Parkway.

[The information follows:]

In 1991, the Federal Highway Administration administered an interim pavement repair to the Rock Creek Parkway. The project consisted of pavement overlays. On two streets intersecting the parkway, Sherill Drive and Morrow Drive, a Novophalt Open Graded Friction Course test section was constructed. The test section consisted of a wearing surface where the asphalt cement was modified using a recycled polyethylene additive. The additive is intended to improve the physical properties of the asphalt cement by making it harder (more stable) in hot weather and softer (minimize cracking) in cold weather. An evaluation of the test section will be performed in calendar year 1993.

PAVEMENT CONDITIONS ON THE INTERSTATE SYSTEM

Mr. CARR. Provide a state-by-state breakdown of the pavement conditions on the interstate system, similar to the chart depicted on page 387 of the 1993 hearing volume.

[The information follows:]

Attached is Exhibit 3-16 from the report to the Congress, "The Status of the Nation's Highways, Bridges, and Transit: Conditions and Performance," printed March 1993. This table includes the information contained in the requested chart.

Exhibit 3–16

Interstate Pavements in Poor Condition

(percent of paved mileage with PSR less than or equal to 2.5)

	Year				
State	1983	1985	1987	1989	1991
Alabama	0.0	0.2	0.1	0.1	0.0
Alaska	31.5	30.0	41.8	26.4	5.1
Arizona	6.2	5.7	13.3	27.4	1.2
Arkansas	3.5	4.2	4.4	5.0	0.9
California	13.2	6.1	8.1	7.1	5.0
Colorado	13.3	6.8	5.8	7.6	30.3
Connecticut	0.3	0.6	1.5	1.2	0.9
Delaware	0.0	0.0	0.0	0.0	0.0
District of Columbia	16.7	33.3	25.0	25.0	25.0
Florida	5.2	2.9	6.7	5.9	13.0
Georgia	1.1	0.0	15.0	11.7	0.0
Hawaii	0.0	0.0	0.0	0.0	2.3
Idaho	12.0	14.2	15.4	30.7	22.6
Illinois	7.2	6.3	4.7	3.8	3.9
Indiana	4.8	7.3	5.2	5.2	1.9
Iowa	1.4	3.8	14.8	7.4	6.9
Kansas	66.5	66.8	11.0	9.6	5.0
Kentucky	7.7	5.3	2.8	5.6	5.0
Louisiana	13.3	2.0	9.2	2.0	1.7
Maine	8.9	7.7	9.0	7.1	5.7
Maryland	27.9	0.5	0.3	4.6	3.5
Massachusetts	1.2	2.3	4.1	2.5	0.9
Michigan	72.3	25.3	14.8	10.7	19.0
Minnesota	2.9	5.2	3.6	5.4	3.1
Mississippi	20.8	29.7	39.2	1.9	0.0
Missouri	20.8	31.6	40.0	42.0	37.2
Montana	3.0	6.0	9.1	13.4	5.0
Nebraska	0.6	8.9	2.1	9.4	3.3
Nevada	9.3	9.6	8.4	33.9	11.6
New Hampshire	1.4	0.0	10.8	19.6	16.5
New Jersey	3.9	8.1	3.8	14.8	1.5
New Mexico	34.6	34.8	12.9	1.3	38.1
New York	8.5	5.2	6.2	6.1	5.3
North Carolina	4.2	2.4	2.5	0.7	0.6
North Dakota	0.0	0.0	25.6	0.2	32.3
Ohio	21.5	11.7	10.2	11.7	7.2
Oklahoma	23.3	19.0	23.6	2.5	0.3
Oregon	46.2	33.1	35.3	15.3	9.8
Pennsylvania	11.0	16.5	9.3	7.8	2.8
Rhode Island	40.0	37.1	24.3	31.4	1.4
South Carolina	3.4	3.7	6.5	7.5	6.6
South Dakota	0.0	0.0	0.0	0.0	3.1
Tennessee	10.7	7.1	36.3	9.1	16.6
Texas	14.8	8.7	6.7	4.5	2.5
Utah	3.0	5.9	1.0	1.3	3.5
Vermont	3.8	10.3	4.4	18.7	5.9
Virginia	9.1	6.8	15.6	17.3	12.1
Washington	18.6	0.6	0.9	1.3	0.1
West Virginia	12.9	6.7	1.7	4.0	6.4
Wisconsin	30.8	23.5	24.7	18.6	0.0
Wyoming	5.6	0.2	0.2	0.2	0.0

Source: Highway Statistics, various years.

PAVEMENT MANAGEMENT SYSTEMS

Mr. CARR. Departmental regulations require all States to have pavement management systems in place by January 1993. How many States are in compliance with the regulation? Which States do you think have especially good systems?

[The information follows:]

All States are in compliance with the regulation. As expected, there is a difference from State-to-State on the degree of implementation and level of technical sophistication depending on the design of the system and the time the work began. Many States began their systems 10 to 15 years ago, while some have begun within the last 4 years. Time is a major factor and a realistic indicator of the level of accomplishment. Great progress has been made in the last 4 years. All States have their systems planned, designed, and under development. Many States are beyond basic development and are enhancing their systems for the first, second, or third time.

We believe there are a number of States that have especially good pavement management systems. A listing would include, but not be limited to, Washington, Minnesota, Maine, New Jersey, Ohio, Kentucky, Kansas, and Arizona. These States represent a wide range of factors that includes size, location, population, mileage, rural versus urban, climate, and age of the system.

PAVEMENT CONDITIONS ON ARTERIALS AND COLLECTORS

Mr. CARR. Update the exhibit that appears on page 390 of the 1993 hearing volume dealing with pavement conditions by functional system.

[The information follows:]

Attached is Exhibit 3–13 from the report to the Congress, "The Status of the Nation's Highways, Bridges, and Transit: Conditions and Performance," printed March 1993. This table includes the information contained in the requested chart.

Exhibit 3–13
Estimated Highway Mileage by Pavement Condition, Functional System, and Year
(in percent)

Functional System	Year	Pavement Condition					
		Poor	Mediocre	Fair	Good	Unpaved	Total
Rural Interstate	1983	13.3	13.8	14.3	58.6	0.0	100.0
	1985	10.8	14.1	15.4	59.7	0.0	100.0
	1987	11.6	15.5	14.4	58.4	0.0	100.0
	1989	9.1	15.4	17.1	58.4	0.0	100.0
	1991	7.6	15.6	15.9	60.8	0.0	100.0
Urban Interstate	1983	16.8	16.1	13.7	53.4	0.0	100.0
	1985	11.1	19.5	13.5	56.0	0.0	100.0
	1987	11.1	18.5	15.0	55.4	0.0	100.0
	1989	9.6	16.1	16.7	57.6	0.0	100.0
	1991	7.7	15.6	16.6	60.1	0.0	100.0
Rural Other Arterials	1983	11.1	11.8	35.3	41.8	0.1	100.0
	1985	8.3	10.0	36.7	44.9	0.1	100.0
	1987	6.6	11.0	37.3	45.0	0.1	100.0
	1989	4.8	9.9	37.4	47.8	0.0	100.0
	1991	3.9	8.0	38.3	49.8	0.0	100.0
Urban Other Arterials	1983	10.0	13.6	34.1	41.7	0.6	100.0
	1985	9.0	13.9	34.7	42.0	0.5	100.0
	1987	8.7	14.0	35.2	41.7	0.4	100.0
	1989	7.7	13.4	36.5	42.1	0.3	100.0
	1991	6.8	13.2	36.0	43.6	0.4	100.0
Rural Collectors	1983	15.0	12.1	25.5	24.7	22.8	100.0
	1985	12.8	13.4	27.2	24.2	22.3	100.0
	1987	12.0	13.0	26.9	26.5	21.7	100.0
	1989	10.5	12.7	27.9	28.6	20.3	100.0
	1991	8.2	12.0	29.8	30.1	19.9	100.0
Urban Collectors	1983	14.9	15.5	34.2	33.3	2.0	100.0
	1985	13.1	17.4	35.3	32.5	1.7	100.0
	1987	13.6	17.4	36.6	31.1	1.3	100.0
	1989	17.6	16.5	33.3	31.3	1.4	100.0
	1991	11.3	17.4	36.0	34.2	1.1	100.0

Note: The above categories are based on the following PSR ranges:
Poor: 0.0 – 2.0 (2.5 for Interstate)
Mediocre: 2.1 – 2.5 (2.6 – 3.0 for Interstate)
Fair: 2.6 – 3.4 (3.1 – 3.4 for Interstate)
Good: 3.5 – 5.0

Source: Highway Statistics, various years.

CONGESTION PRICING PILOT PROJECTS

Mr. Carr. Provide details on the use of the $25 million per year that is available for congestion pricing pilot projects pursuant to section 1012(b) of ISTEA.

[The information follows:]

Currently, $270,000 of the funds provided by Section 1012(b) of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) has been obligated. This money was used to fund expert consulting services to produce a guidance document to assist program applicants in developing congestion pricing projects which include adequate planning, implementation, monitoring and evaluation components. The consulting service is also available to provide direct assistance to program applicants in developing projects that meet our selection criteria.

We are currently negotiating an agreement with the California Department of Transportation and the Metropolitan Transportation Commission in the San Francisco Bay Area, California for implementation of a congestion pricing pilot project. Once these negotiations are complete, we expect to obligate funds for project planning (e.g., corridor study, development of pricing strategies), capital costs (e.g. electronic toll and traffic monitoring systems, toll booths, information signs), operating costs (e.g. salaries and expenses, maintenance), public out-reach/marketing, project monitoring and evaluation, and transit enhancement directly related to the project (e.g. operating and capital costs).

We are extending the solicitation period for project applications by 4 months, and we expect to select up to 4 additional projects for participation in the Congestion Pricing Pilot Program before the end of this year. We expect to obligate the full amount of funds available for this program to support implementation of congestion pricing under the 5 agreements allowed under Section 1012(b).

METROPOLITAN PLANNING ORGANIZATIONS

Mr. Carr. During last year's hearing, Dr. Larson stated that "many of these MPOs have a very limited capability to really do effective transportation planning and implementation." Has this situation changed appreciably in the past year?

[The information follows:]

With the significant legislative change invoked by ISTEA and the short experience under it, the track record is hazy but encouraging. Anecodotal indications generally reflect a positive response by the MPOs and the States to the ISTEA initiatives.

Resources, including staff and technical tools, continue to pose problems in a number of areas. A particular concern is the ability of MPOs to update their transportation plans in a comprehensive and timely manner and develop financial plans that demonstrate that they have the resources to implement the transportation plans. The projection of future revenues and costs appears to be especially difficult. The joint FHWA/FTA interim guidance issued on April 6, 1992 established an October 1, 1993 target date for updating transportation plans in nonattainment areas. A number of MPOs have indicated it will be extremely difficult to meet this date.

In nonattainment areas, the Clean Air Act will make the task even more challenging. Concerns focus on the changes in travel behavior that appear necessary. Transportation decision makers will have to make tough decisions on TCMs that will be controversial.

We intend to work closely with the MPOs and States in carrying out these requirements and ensure, to the extent possible, that they have the necessary resources and tools. Many MPOs are looking to FHWA and FTA to provide improved technical tools. We have several research efforts under way to develop and disseminate them.

There are several substantial success stories. The San Francisco Bay Area has initiated a major collaborative effort called the Bay Area Partnership. Albany, New York has involved the local governments and interest groups in Transportation Improvement Program (TIP) development utilizing objective evaluation criteria. Pittsburgh is implementing a major plan update with a significant public involvement initiative. Each case is a legitimate success story that can be a model for other MPOs.

The NPRMs issued by FHWA and FTA on March 2, 1993 contained a phase-in schedule for meeting the ISTEA requirements.

Additional information regarding MPO perceptions of their new role and ability to meet the proposed phase-in schedule may be obtained from the comment submitted to the rule making dockets for the proposed regulations on metropolitan and statewide planning and the management systems.

STATUS AND COST OF INTERSTATE SYSTEM

Mr. CARR. Update the information that appears on pages 406 and 407 of the 1993 hearing volume relating to the interstate system.

[The information follows:]

COST OF THE INTERSTATE SYSTEM [1]

Item	Total	Federal-aid funds
1,500-mile addition	3,375	3,308
Major system adjustments (decrease)	(4,620)	(4,158)
United Price increases	41,279	37,151
Added interchanges and grade separations	2,934	2,641
Added lanes	3,588	3,229
Upgraded roadway designs	4,610	4,149
Changed structure designs	4,598	4,138
Pavement overlays	375	338
Added landscaping, erosion control, rest areas	2,047	1,842
Safety on work underway	845	761
Safety on completed sections	1,020	918
Additional Preliminary Engineering	3,630	3,267
Right of Way and relocation increases	8,628	7,765
20-year design period	342	308
4-lane minimum requirement	335	302
Social, economic and environmental features	4,058	3,652
Mass transit, fringe parking	125	113
Miscellaneous—traffic increases, utility adjustments, added planning and research, FHWA research, more costly locations, project overruns, contingency items, et cetera	14,160	10,947
Total increases	91,330	80,400
1958 estimate	37,570	33,900
1991 estimate	128,900	114,300

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[1] Based on the 1991 Interstate Cost Estimate Report to Congress.

DEFICIENT BRIDGES

Mr. CARR. Update the information on deficient bridges that appears on pages 416–418 of the 1993 hearing volume.

[The information follows:]

Count of Deficient Bridges by State
Nation Highway System (NHS)
As of December 1992

STATE	Bridges in Inventory	Non-Deficient Bridges	Structurally Deficient	Functionally Obsolete	Deficient Bridges	Percent Deficient	Rank By %
Alabama	2,712	1,923	91	698	789	29%	20 T
Alaska	324	257	19	48	67	21%	38 T
Arizona	2,901	2,625	25	251	276	10%	51 T
Arkansas	2,029	1,482	89	458	547	27%	28 T
California	9,127	6,591	178	2,358	2,536	28%	25 T
Colorado	2,085	1,600	124	361	485	23%	35
Connecticut	1,680	1,129	206	345	551	33%	12 T
Delaware	256	183	13	60	73	29%	20 T
Dist. of Col.	190	67	41	82	123	65%	2
Flordia	4,491	3,498	43	950	993	22%	36 T
Georgia	2,671	2,164	62	445	507	19%	42 T
Hawaii	299	154	16	129	145	48%	4
Idaho	802	576	31	195	226	28%	25 T
Illinois	3,128	2,205	382	541	923	30%	18 T
Indiana	3,087	2,543	132	412	544	18%	45
Iowa	2,130	1,710	160	260	420	20%	41 T
Kansas	2,983	2,119	162	702	864	29%	20 T
Kentucky	1,834	1,455	26	353	379	21%	38 T
Louisiana	2,515	1,794	171	550	721	29%	20 T
Maine	513	366	37	110	147	29%	20 T
Maryland	1,292	975	70	247	317	25%	31
Massachusetts	2,319	694	267	1,358	1,625	70%	1
Michigan	2,464	1,650	456	358	814	33%	12 T
Minnesota	1,763	1,500	157	106	263	15%	49
Mississippi	2,635	1,642	238	755	993	38%	8
Missouri	2,508	1,965	201	342	543	22%	36 T
Montana	1,280	969	23	288	311	24%	32 T
Nebraska	1,275	1,060	130	85	215	17%	46 T
Nevada	649	493	14	142	156	24%	32 T
New Hampshire	632	454	62	116	178	28%	25 T
New Jersey	2,568	1,555	452	561	1,013	39%	7
New Mexico	1,416	1,226	71	119	190	13%	50
New York	4,629	1,723	2,195	711	2,906	63%	3
North Carolina	2,626	1,772	361	493	854	33%	12 T
North Dakota	598	549	25	24	49	8%	52
Ohio	4,927	3,598	437	892	1,329	27%	28 T
Oklahoma	2,853	2,277	209	367	576	20%	41 T
Oregon	1,852	1,210	73	569	642	35%	10
Pennsylvania	5,238	3,494	857	887	1,744	33%	12 T
Rhode Island	352	207	45	100	145	41%	6
South Caroline	1,389	1,104	29	256	285	21%	38 T
South Dakota	906	736	71	99	170	19%	42 T
Tennessee	3,527	2,472	378	677	1,055	30%	18 T
Texas	15,073	12,518	403	2,152	2,555	17%	46 T
Utah	1,053	716	103	234	337	32%	17
Vermont	457	308	19	130	149	33%	12 T
Virginia	3,032	2,557	187	288	475	16%	48
Washington	2,231	1,429	314	488	802	36%	9
West Virginia	960	630	177	153	330	34%	11
Wisconsin	2,860	2,161	561	138	699	24%	32 T
Wyoming	1,193	968	13	212	225	19%	42 T
Puerto Rico	597	339	77	181	258	43%	5
TOTAL	122,911	89,392	10,683	22,836	33,519	27%	

Count of Deficient Bridges by State
Other Federal Aid Highway
As of December 1992

STATE	Bridges in Inventory	Non-Deficient Bridges	Structurally Deficient	Functionally Obsolete	Deficient Bridges	Percent Deficient	Rank By %
Alabama	5,051	3,508	782	761	1,543	31%	24
Alaska	341	283	28	30	58	17%	42 T
Arizona	2,027	1,870	40	117	157	8%	51
Arkansas	5,555	4,149	642	764	1,406	25%	32
California	6,861	5,041	411	1,409	1,820	27%	29 T
Colorado	2,017	1,608	220	189	409	20%	40 T
Connecticut	1,097	670	175	252	427	39%	14 T
Delaware	228	176	29	23	52	23%	35
Dist. of Col.	35	13	9	13	22	63%	3
Flordia	2,534	1,859	99	576	675	27%	29 T
Georgia	5,483	4,015	631	837	1,468	27%	29 T
Hawaii	399	156	92	151	243	61%	4
Idaho	1,088	855	90	143	233	21%	38 T
Illinois	7,756	5,903	1,117	736	1,853	24%	33 T
Indiana	4,436	3,200	652	584	1,236	28%	26 T
Iowa	5,119	4,112	528	479	1,007	20%	40 T
Kansas	8,138	6,319	757	1,062	1,819	22%	36 T
Kentucky	3,297	2,005	241	1,051	1,292	39%	14 T
Louisiana	8,914	4,970	2,816	1,128	3,944	44%	10
Maine	782	460	112	210	322	41%	13
Maryland	1,028	641	101	286	387	38%	17
Massachusetts	1,532	552	320	660	980	64%	5
Michigan	3,770	2,466	736	568	1,304	35%	19 T
Minnesota	3,659	3,052	446	161	607	17%	42 T
Mississippi	6,917	4,192	2,154	571	2,725	39%	14 T
Missouri	6,506	3,777	1,946	783	2,729	42%	11 T
Montana	1,280	1,067	77	136	213	17%	42 T
Nebraska	3,836	3,179	463	194	657	17%	42 T
Nevada	235	203	16	16	32	14%	47
New Hampshire	564	373	89	102	191	34%	21 T
New Jersey	1,921	876	545	500	1,045	54%	6
New Mexico	1,090	954	81	55	136	12%	49
New York	4,587	1,517	2,597	473	3,070	67%	2
North Carolina	3,375	2,142	639	594	1,233	37%	18
North Dakota	1,136	1,010	84	42	126	11%	50
Ohio	7,086	4,960	1,188	938	2,126	30%	25
Oklahoma	7,037	5,053	1,493	491	1,984	28%	26 T
Oregon	2,347	1,792	204	351	555	24%	33 T
Pennsylvania	6,114	3,323	1,715	1,076	2,791	46%	9
Rhode Island	234	116	50	68	118	50%	8
South Carolina	3,075	2,411	221	443	664	22%	36 T
South Dakota	1,825	1,594	157	74	231	13%	48
Tennessee	5,515	3,600	925	990	1,915	35%	19 T
Texas	14,052	11,897	683	1,472	2,155	15%	46
Utah	622	494	66	62	128	21%	38 T
Vermont	839	487	157	195	352	42%	11 T
Virginia	4,251	2,867	501	883	1,384	33%	23
Washington	1,852	1,231	202	419	621	34%	21 T
West Virginia	2,356	1,156	609	591	1,200	51%	7
Wisconsin	3,799	2,735	883	181	1,064	28%	26 T
Wyoming	705	664	17	24	41	6%	52
Puerto Rico	588	177	119	292	411	70%	1
TOTAL	174,891	121,730	28,955	24,206	53,161	30%	

Count of Deficient Bridges by State
Non Federal Aid Highways
As of December 1992

STATE	Bridges in Inventory	Non-Deficient Bridges	Structurally Deficient	Functionally Obsolete	Deficient Bridges	Percent Deficient	Rank By %
Alabama	7,625	4,236	2,640	749	3,389	44%	19
Alaska	190	115	40	35	75	39%	29 T
Arizona	1,028	810	86	132	218	21%	50
Arkansas	5,148	2,433	2,192	523	2,715	53%	7
California	6,448	4,493	783	1,172	1,955	30%	39
Colorado	3,328	2,361	697	270	967	29%	40 T
Connecticut	1,175	710	216	249	465	40%	27 T
Delaware	250	185	33	32	65	26%	44 T
Dist. of Col.	12	3	0	9	9	75%	1
Flordia	3,556	2,655	258	643	901	25%	46 T
Georgia	6,093	3,876	1,781	436	2,217	36%	34 T
Hawaii	344	182	48	114	162	47%	15 T
Idaho	1,785	1,373	271	141	412	23%	48
Illinois	13,868	9,914	2,873	1,081	3,954	29%	40 T
Indiana	10,123	6,173	2,829	1,121	3,950	39%	29 T
Iowa	17,692	11,353	3,973	2,366	6,339	36%	34 T
Kansas	14,407	8,144	4,521	1,742	6,263	43%	20
Kentucky	7,656	4,720	1,443	1,493	2,936	38%	31
Louisiana	2,269	1,428	488	353	841	37%	32 T
Maine	1,032	614	211	207	418	41%	24 T
Maryland	2,190	1,276	301	613	914	42%	21 T
Massachusetts	1,171	564	325	282	607	52%	8
Michigan	3,851	2,316	1,173	362	1,535	40%	27 T
Minnesota	7,113	5,232	1,382	499	1,881	26%	44 T
Mississippi	7,016	3,646	3,039	331	3,370	48%	13 T
Missouri	14,092	5,914	7,076	1,102	8,178	58%	4
Montana	1,928	1,315	352	261	613	32%	37 T
Nebraska	10,424	5,425	4,055	944	4,999	48%	13 T
Nevada	253	203	30	20	50	20%	52
New Hampshire	1,088	558	321	209	530	49%	11 T
New Jersey	1,662	836	532	294	826	50%	10
New Mexico	996	707	130	159	289	29%	40 T
New York	8,076	2,633	5,090	353	5,443	67%	2
North Carolina	9,696	5,594	2,657	1,445	4,102	42%	21 T
North Dakota	2,948	1,573	1,082	293	1,375	47%	15 T
Ohio	15,724	9,965	2,767	2,992	5,759	37%	32 T
Oklahoma	12,965	5,969	6,250	746	6,996	54%	6
Oregon	1,999	1,497	289	213	502	25%	46 T
Pennsylvania	10,920	5,609	3,065	2,246	5,311	49%	11 T
Rhode Island	126	54	35	37	72	57%	5
South Carolina	4,463	3,532	768	163	931	21%	50 T
South Dakota	3,574	1,979	1,188	407	1,595	45%	18
Tennessee	9,434	6,062	2,363	1,009	3,372	36%	34 T
Texas	17,492	10,100	4,751	2,641	7,392	42%	21 T
Utah	988	718	208	62	270	27%	43
Vermont	1,348	722	435	191	626	46%	17
Virginia	5,344	3,630	758	956	1,714	32%	37 T
Washington	2,471	1,938	230	303	533	22%	49
West Virginia	3,077	1,499	873	705	1,578	51%	9
Wisconsin	6,423	4,361	1,798	264	2,062	32%	37 T
Wyoming	952	562	245	145	390	41%	24 T
Puerto Rico	561	217	109	235	344	61%	3
TOTAL	274,394	161,984	79,060	33,350	112,410	41%	

LOAD POSTING REQUIREMENTS COMPLIANCE

Mr. CARR. Update the information on load posting requirements compliance similar to that on page 419 of the 1993 hearing volume.

[The information follows:]

As of December 31, 1992, there were 16,388 bridges which should be posted but were not. Of these 888 or 5.4 percent are on the NHS, 4,323 or 26.4 percent are on other Federal-aid highways and 11,177 or 68.2 percent are on non-federal-aid highways. Some of these bridges are in the process of being posted.

The majority of the bridges (9,972 or 60.8 percent) are in seven States—California (787), Kansas (1,646), Mississippi (2,272), Missouri (2,725), Oklahoma (1,145), South Carolina (648), and Puerto Rico (749).

IVHS RADIO FREQUENCY SPECTRUM SPACE

Mr. CARR. Provide an update to the information on IVHS Radio Frequency Spectrum Space that appears on page 431 on the 1993 hearing volume

[The information follows:]

The Federal Highway Administration's application for five of the available ten radio frequency pairs in the 220–222 MHz range reserved for Government was approved by the National Telecommunications and Information Administration (NTIA). We have established guidelines for use of these five frequency pairs in the IVHS research and operational test program with specific emphasis on certain safety and warning systems. We have also requested the NTIA not reallocate the remainder of the 10 pairs and instead reserve this small spectrum for emerging technology in the IVHS program. We are continuing to meet with Federal Communications Commission officials to seek spectrum for IVHS operational systems.

ACCIDENT FATALITY RATES

Mr. CARR. Update the fatal accident rate information that appears on page 443 of the 1993 hearing volume:

[The information follows:]

FATAL ACCIDENT RATES

[Per 100 Million Miles of Travel]

	Fatal accident rate combination vehicles	Fatal accident rate medium and heavy trucks	Fatal accident rate all vehicles
Year:			
1985	4.9	3.8	2.2
1986	4.7	3.7	2.2
1987	4.4	3.5	2.2
1988	4.4	3.5	2.1
1989	3.9	3.2	1.9
1990	3.7	3.0	1.9
1991	3.2	2.7	1.7

Source. Fatal Accident Reporting System.

MOTOR CARRIER ROADSIDE INSPECTIONS

Mr. CARR. Update the data on motor carrier roadside inspections that appears on pages 455–456 of the 1993 hearing volume.

[The information follows:]

FISCAL YEAR 1992 STATE BY STATE CHART ON GRANTS, ROADSIDE INSPECTIONS, AND OUT-OF-SERVICE VEHICLES AND DRIVERS

State	Inspections	OOS vehicles	OOS drivers
Alabama	14,126	4,535	1,278
Alaska	1,677	734	83
Arizona	26,399	9,189	3,151
Arkansas	46,083	10,021	4,723
California	54,873	15,272	1,584
Colorado	46,619	7,623	1,908
Connecticut	18,592	5,609	718
Delaware	4,475	1,523	504
Georgia	27,317	9,267	2,295
Hawaii	3,732	587	165
Idaho	8,569	2,789	897
Illinois	89,008	16,523	5,631
Indiana	54,323	13,595	2,025
Iowa	35,656	10,461	2,315
Kansas	16,471	5,652	1,023
Kentucky	96,020	25,625	7,028
Louisiana	36,703	11,800	3,345
Maine	6,271	2,843	637
Maryland	64,443	13,257	2,756
Massachusetts	24,813	3,962	892
Michigan	46,442	13,849	2,416
Minnesota	28,817	6,642	3,620
Mississippi	21,537	7,028	1,368
Missouri	65,741	29,092	7,908
Montana	20,615	3,994	1,489
Nebraska	20,153	4,576	3,035
Nevada	8,519	2,737	711
New Hampshire	13,665	2,575	535
New Jersey	23,772	5,162	1,198
New Mexico	15,446	4,269	1,559
New York	41,472	16,410	3,467
North Carolina	62,424	17,032	3,707
North Dakota	16,673	2,456	1,047
Ohio	70,134	25,512	6,016
Oklahoma	11,920	2,895	815
Oregon	24,246	7,641	1,573
Pennsylvania	49,867	16,195	3,003
Rhode Island	6,561	1,991	674
South Carolina	19,864	4,894	1,295
Tennessee	113,554	45,395	10,239
Texas	77,644	19,099	10,214
Utah	20,853	7,496	715
Vermont	5,626	1,352	379
Virginia	35,491	9,916	1,649
Washington	62,046	17,155	3,058
West Virginia	14,595	3,478	801
Wisconsin	63,127	7,122	3,393
Wyoming	6,988	1,421	951
American Samoa	1,294	418	24
Washington, DC	3,371	489	39
Guam	5,048	1,338	0
Puerto Rico	1,961	915	27

PRICE TRENDS FOR FEDERAL-AID HIGHWAY CONSTRUCTION

Mr. CARR. Please update the information on price trends for Federal-aid highway construction depicted on page 472 of the 1993 hearing volume.

[The information follows:]

PRICE TRENDS FOR FEDERAL-AID HIGHWAY CONSTRUCTION

1987 Base

Year	Common excavation		Surfacing					Structures							Composite index
	Average contract price (cu. yd.)	Index	Portland cement concrete [2]		Bituminous concrete		Surfacing index	Reinforcing steel		Structural steel		Structural concrete		Structures index	
			Average contract price (sq. yd.)	Index	Average contract price (ton)	Index		Average contract price (lb.)	Index	Average contract price (lb.)	Index	Average contract price (cu. yd.)	Index		
1972	.72	29.7	6.42	43.6	9.23	37.5	39.5	.181	41.1	.342	38.6	100.17	41.6	40.7	38.6
1973	.80	33.0	7.00	47.5	10.02	40.7	42.9	.207	47.0	.372	42.0	111.81	46.4	45.4	42.5
1974	1.00	41.2	8.88	60.3	14.74	59.8	60.0	.339	76.9	.551	62.3	136.80	56.8	61.7	57.9
1975	1.03	42.5	8.88	60.3	15.13	61.4	61.0	.297	67.4	.554	62.6	138.76	57.6	60.6	58.1
1976	1.03	42.5	8.92	60.6	14.83	60.2	60.3	.258	58.5	.484	54.7	139.59	58.0	57.2	56.3
1977	1.16	47.8	9.95	67.5	15.47	62.8	64.3	.272	61.7	.520	58.8	143.51	59.6	59.7	59.8
1978	1.54	63.5	11.90	80.8	17.16	69.6	73.3	.316	71.7	.603	68.1	172.41	71.6	70.7	70.7
1979	1.62	66.8	14.02	95.2	21.21	86.1	89.0	.421	95.5	.759	85.8	211.33	87.8	88.6	85.5
1980	1.83	75.5	14.92	101.3	25.29	102.6	102.2	.483	109.6	.941	106.3	226.68	94.1	100.0	97.2
1981	1.76	72.6	14.17	96.2	25.63	104.0	101.4	.438	99.4	.790	89.3	231.64	96.2	94.9	94.2
1982	1.59	65.6	13.03	88.5	24.33	98.7	95.3	.407	92.4	.762	86.1	219.63	91.2	90.0	88.5
1983	1.74	71.8	12.69	86.1	24.27	98.5	94.4	.398	90.3	.708	80.0	213.85	88.8	86.7	87.6
1984	1.90	78.4	13.64	92.6	26.52	107.6	102.7	.409	92.8	.709	80.1	218.02	90.5	88.2	92.6
1985	2.24	92.4	14.31	97.1	28.52	115.7	109.6	.444	100.7	.796	89.9	243.60	101.2	98.1	102.0
1986	2.28	94.0	15.63	106.1	26.48	107.4	107.0	.442	100.3	.850	96.0	236.37	98.2	98.0	101.1
1987.															
First quarter	2.35	96.9	14.41	97.8	24.64	100.0	99.3	.434	98.5	.876	99.0	241.50	100.3	99.6	99.1
Second quarter	2.62	108.1	14.42	97.9	23.50	95.3	96.2	.460	104.4	.930	105.1	225.80	93.8	98.6	99.8
Third quarter	2.34	96.5	14.29	97.0	25.96	105.3	102.6	.437	99.2	.835	94.3	250.73	104.1	100.7	100.8
Fourth quarter	2.43	100.2	16.02	108.7	24.27	98.5	101.8	.436	98.9	.886	100.1	240.14	99.7	99.7	100.7
Annual	2.42	100.0	14.80	100.0	24.65	100.0	100.0	.441	100.0	.885	100.0	240.81	100.0	100.0	100.0
1988:															
First quarter	3.35	138.2	15.22	103.3	26.09	105.9	105.0	.505	114.6	.899	101.6	296.05	122.9	115.9	114.8
Second quarter	2.17	89.5	13.42	91.1	23.21	94.2	93.2	.474	107.6	.882	99.7	261.42	108.6	106.0	98.3
Third quarter	3.08	127.0	14.58	99.0	24.53	99.5	99.3	.500	113.5	.977	110.4	281.85	117.0	114.7	110.3
Four quarter	2.63	108.5	14.38	97.6	26.33	106.8	103.8	.493	111.9	.950	107.3	260.82	108.3	108.7	106.6
Annual	2.72	112.2	14.33	97.3	24.91	101.1	99.8	.494	112.1	.924	104.4	274.12	113.8	111.0	106.6
89:															
First quarter	2.44	100.6	15.80	107.3	23.14	93.9	98.3	.612	138.9	1.091	123.3	312.62	129.8	129.6	112.4
Second quarter	2.28	94.0	15.42	104.7	23.50	95.3	98.4	.500	113.5	1.008	113.9	262.95	109.2	111.2	103.4
Third quarter	2.22	91.6	14.80	100.5	25.08	101.8	101.3	.615	139.5	.946	106.9	299.35	124.3	122.3	109.1
Fourth quarter	2.81	115.9	14.85	100.8	24.48	99.3	99.8	.485	110.0	1.063	120.1	257.49	106.9	110.9	107.1
Annual	2.40	99.0	15.17	103.0	24.08	97.7	99.4	.556	126.2	1.018	115.0	283.40	117.7	118.4	107.7
1990:															
First quarter	2.54	104.7	16.01	108.7	24.44	99.2	102.3	.592	134.4	1.023	115.5	291.00	120.8	121.8	111.2
Second quarter	2.55	105.0	15.55	105.6	23.71	96.2	99.3	.500	113.5	0.941	106.4	277.41	115.2	112.6	106.0
Third quarter	2.29	94.3	16.08	109.2	24.17	98.1	101.7	.551	125.0	0.978	110.5	301.76	125.3	121.4	109.2
Fourth quarter	2.18	89.9	17.34	117.7	26.21	106.3	110.1	.475	107.8	1.099	124.1	265.51	110.3	113.5	108.5
Annual	2.38	98.1	15.91	108.0	24.52	99.5	102.3	.529	120.0	1.010	114.1	286.18	118.8	117.8	108.5
1991															
First quarter	2.22	91.5	15.96	108.4	27.13	110.1	109.5	.556	126.1	1.184	133.8	296.59	123.2	126.5	114.3
Second quarter	2.24	92.2	16.16	109.7	26.07	105.8	107.1	.525	119.2	1.104	124.8	296.79	123.2	123.0	111.8
Third quarter	2.44	100.8	17.33	117.6	24.05	97.6	104.2	.509	115.4	.963	108.8	269.55	111.9	111.7	107.0
Fourth quarter	2.38	98.1	17.14	116.4	24.49	99.4	105.0	.453	102.7	.922	104.2	221.58	92.0	97.1	100.4
Annual	2.32	95.5	16.58	112.5	25.52	103.6	106.5	.505	114.6	1.030	116.4	264.98	110.0	112.5	107.5
1992:															
First quarter	2.13	87.8	17.08	116.0	25.31	102.7	107.0	.470	106.6	.869	98.2	255.52	106.1	104.1	102.9
Second quarter	2.27	93.5	18.24	123.9	24.55	99.6	107.6	.482	109.4	1.003	113.3	299.19	124.2	118.8	110.4
Third quarter	2.28	94.0	17.73	120.4	23.19	94.1	102.7	.599	136.0	.864	97.7	214.51	89.1	99.3	99.9
Fourth quarter	1.93	79.5	18.23	123.8	25.27	102.5	109.5	.485	110.0	.901	101.8	291.09	120.9	114.0	107.0
Annual	2.20	90.8	17.80	120.8	24.66	100.1	106.9	.520	117.9	.916	103.5	259.61	107.8	108.4	105.1

CONSTRUCTION INDUSTRY UNEMPLOYMENT RATES

Mr. CARR. Update the information on construction industry unemployment rates shown on page 475 of the 1993 hearing volume.

[The information follows:]

Unemployment rate in the construction industry

Annual:	
1975	18.1
1976	15.7
1977	12.7
1978	10.6
1979	10.2
1980	14.1
1981	15.6
1982	20.0
1983	18.4
1984	14.3
1985	13.1
1986	13.1
1987	11.6
1988	10.6
1989	10.0
1990	11.1
1991	15.4
1992:	
January	17.0
February	17.4
March	17.6
April	16.6
May	16.9
June	17.6
July	16.5
August	17.0
September	17.5
October	16.0

Source: From Monthly Labor Review, Bureau of Labor Statistics (BLS). Monthly data seasonally adjusted. The BLS does not make projections of future unemployment levels.

HIGHWAY CONSTRUCTION COST TRENDS AND CAPACITY

Mr. CARR. Update the information appearing on page 476 of the 1993 hearing volume regarding cost trends and capacity in the construction industry.

[The information follows:]

EXCESS CAPACITY IN HIGHWAY CONSTRUCTION INDUSTRY

[Amounts in billions of dollars]

	1992	1991	1990	1989	1988	1987	1986
Average number bidders: Federal-aid except secondary	5.1	4.9	4.6	4.8	4.8	4.5	4.4
Percent unemployment	17.0	15.4	11.1	10.0	10.6	11.6	13.1
Federal-aid amounts including secondary	11.0	10.7	10.0	11.9	11.8	11.9	11.4
Constant 1972 dollars deflated by FHWA bid price index	4.0	3.8	3.6	4.2	4.1	4.4	4.3

[Clerk's note: Additional information follows:]

CONSTRUCTION INDUSTRY MANUFACTURERS ASSOCIATION
WASHINGTON OFFICE
525 School Street, S.W. ● Suite 303 ● Washington, D.C. 20024 ● (202) 479-2666

February 24, 1993

The Honorable Bob Carr
U. S. House of Representatives
Washington, D. C. 20515

Dear Congressman Carr:

Last night you asked about the ability of construction machinery manufacturers to handle additional demand without creating a non-competitive or inflationary market condition. We are unaware of any discussion of an increased infrastructure funding level that would trigger such a condition.

Figures for industry capacity utilization as published by the Federal Reserve Board shows industry capacity utilization well below inflationary levels. The construction machinery manufacturing capacity utilization is below the average for all industry.

Our industry expects an increase in domestic demand in 1993, but that is offset by a decrease in demand for exports to Europe, Japan and many other markets. As a result, a recent survey of our 400+ corporate members indicates the industry anticipates "sluggish growth" for 1993. This survey was taken in early January when increases in domestic infrastructure investment and other stimulations to the economy were already the talk of the day. Other points in the survey document that our manufacturers are currently experiencing no significant shortage of labor, components or raw materials.

Based on the above, based on the quantity of product shipped by the manufacturer over the past five years and based on the relatively short lead-time needed to increase utilization of existing plant capacity, we cannot foresee a non-competitive market for construction machinery.

As for the capacity of the contractors, all of the data we have seen would suggest they, too, have an excess sufficient to absorb major increases of 20% or more before there would be significant impact on the extremely competitive nature of the industry. $3 billion represents less than 15% of the current level of new highway construction.

The U. S. Department of Commerce has published figures for the total value of new construction put in place in constant dollars and forecasts it for 1993. These are their figures:

Value of New Construction Put in Place
Billions of 1987 $

1989	1990	1991	1992 estimate	1993 forecast
409.5	397.5	358.6	373.2	375.8

CIMA HEADQUARTERS: 111 E. WISCONSIN AVENUE ● MILWAUKEE, WISCONSIN 53202 ● (414) 272-0943

These figures do not go back far enough to capture the peak years for the industry in 1979 and 1980. On a separate page I have included a bar chart produced by Manfredi Associates that supports the conclusion that contractor capacity is also under-utilized. Manfredi Associates (located in Buffalo Grove, Illinois) is a well recognized independent market research firm frequently quoted in the construction industry trade press and consulted by many seeking factual insight into construction industry conditions.

Finally, bid prices on highway construction as tabulated by the Federal Highway Administration have been going down as the enclosed line graph shows. Clearly contractors are still aggressively seeking more work.

Each time I've heard you speak I have been impressed with your understanding of the Federal Aid Highway program and all its facets. You are absolutely correct when you call for a consistent program. If we can achieve that, there will be savings for all concerned and the public will get better value. It must, however, be consistent growth if we are going to properly address our highway needs.

Sorry for the length. If this provokes any questions, please tell me how we can help.

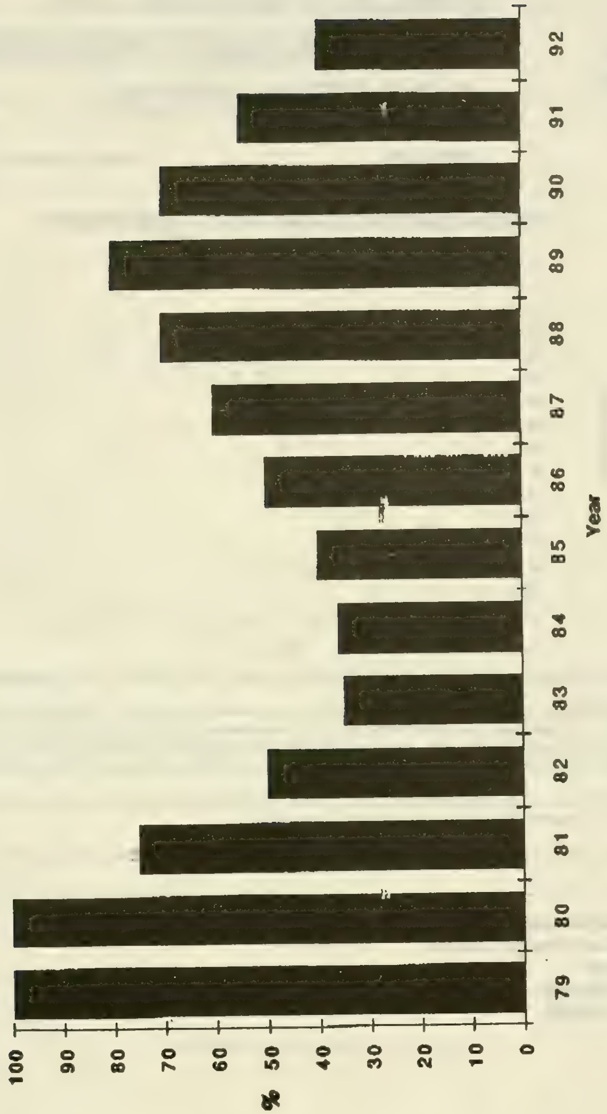
Sincerely,

Bill Peterson

J. Wm. Peterson
Director of Government Affairs

JWP:cmc
Enclosures

Estimated Utilization of Contractor Work Capacity



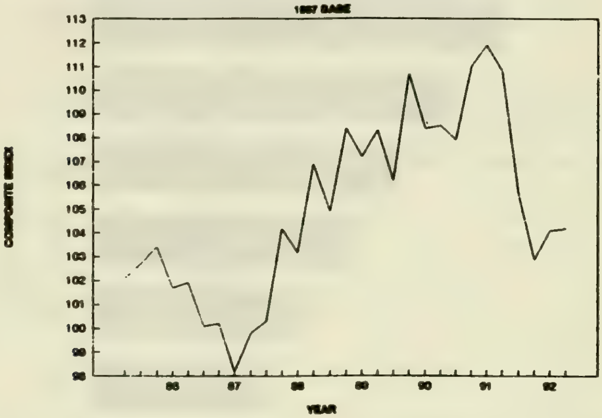
Source: Manfredi Associates

U.S. Department
of Transportation
Federal Highway
Administration

PRICE TRENDS for FEDERAL-AID HIGHWAY CONSTRUCTION

1987 BASE **THIRD QUARTER 1992**

THREE-QUARTER MOVING INDEX PRICE TRENDS



The three-quarter moving composite price index is the weighted average of the indices for three consecutive quarters.

The Composite Bid Price Index is composed of six indicator items: common excavation, to indicate the price trend for all roadway excavation; portland cement concrete pavement and bituminous concrete pavement, to indicate the price trend for all surfacing types; and reinforcing steel, structural steel, and structural concrete, to indicate the price trend for structures. Descriptions of the six indicator items can be found in Federal-aid Highway Program Manual (FHPM) 6-1-1-10.

Development of the index is discussed in some detail in PUBLIC ROADS magazines, volume 31, No. 10, October 1961; volume 36, No. 4, October 1970; and volume 45, No. 1, June 1981.

Average contract prices shown herein are completed for work and include costs of materials, labor, equipment, overhead and profit.

Office of Engineering
Federal-Aid and Design Division
'202) 366-4651
Publication Number
FHWA-PD-92-009

FOR OFFICIAL DISTRIBUTION

FEDERAL-AID HIGHWAY OBLIGATIONS

Mr. Carr. Provide a table showing fiscal years 1992 and 1993 Federal-aid highways obligations by program.

[The information follows:]

The following tables display actual fiscal year 1992 obligations and obligations for fiscal year 1993 as of March 31, 1993, for Federal-aid Highways by program.

U. S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

SUMMARY OF OBLIGATIONS OF FEDERAL-AID HIGHWAY FUNDS APPORTIONED OR ALLOCATED TO STATES

DURING FISCAL YEAR 1992

AS OF SEPTEMBER 30, 1992

FUND	OBLIGATIONS
FEDERAL-AID HIGHWAY ACCOUNT	
SUMMARY - BY STATE	16,671,868,771.24
INTERSTATE	
INTERSTATE CONSTRUCTION	1,866,895,241.24
INTERSTATE GAP CLOSING	2,421.44CR
INTERSTATE DISCRETIONARY CONSTRUCTION	100,100,591.39
INTERSTATE 4R DISCRETIONARY - 056	52,182.70CR
INTERSTATE MAINTENANCE	1,898,992,633.56
INTERSTATE 4R	526,812,150.92
INTERSTATE 4R - MD I-83	
INTERSTATE 4R NHS DISCRETIONARY	55,170,253.00
INTERSTATE - TOTAL	4,447,916,265.97
PRIMARY, SECONDARY, URBAN, AND BRIDGE	
CONSOLIDATED PRIMARY	734,290,849.69
RURAL SECONDARY	267,540,985.48
URBAN SYSTEM	283,518,167.61
SPECIAL BRIDGE REPLACEMENT	146,975.76CR
BRIDGE REPLACEMENT AND REHABILITATION - APPORTIONED	1,754,465,496.77
BRIDGE REPLACEMENT AND REHABILITATION - DISCRETIONARY	49,865,464.74
ACCELERATION OF BRIDGES	27,833,982.00
URGENT SUPPLEMENTAL APPN. ACT BRIDGES	
PRIMARY, SECONDARY, URBAN, AND BRIDGE - TOTAL	3,117,367,950.53
STP, NHS, AND DONOR STATE PROGRAMS	
SURFACE TRANSPORTATION PROGRAMS - TOTAL	3,036,239,007.32
NATIONAL HIGHWAY SYSTEMS - TOTAL	2,894,315,202.72
DONOR STATE BONUS - TOTAL	276,910,583.91
SAFETY CONSTRUCTION	
HAZARD ELIMINATION	102,947,828.35
RAIL-HIGHWAY CROSSINGS ON ANY PUBLIC ROAD	103,132,726.32
SAFETY CONSTRUCTION - TOTAL	206,080,554.67
FEDERAL LANDS	
FOREST HIGHWAYS	96,822,432.68
INDIAN RESERVATION ROADS	59,901.00
PARK ROADS AND PARKWAYS	63,759,758.35
PUBLIC LANDS	45,199,734.06
FEDERAL LANDS - TOTAL	205,841,826.09
OTHER	
2 PERCENT HPR	174,440,938.23
25 PERCENT HPR RD & TT	56,564,237.52
1 1/2 PERCENT HPR	22,889,947.57
METROPOLITAN PLANNING	92,916,433.94
URBAN HIGH DENSITY	1,403,100.00
MINIMUM ALLOCATION	1,050,331,372.28
INTERSTATE TRANSFERS	369,806,724.75
FRANCONIA NOTCH	
DEMONSTRATION PROJECTS, SEC 131, 1982 STAA	9,973,728.09
UNION STATION, DIST. OF COL.	
BYPASS HIGHWAY	
ACOSTA AND TALMADGE BRIDGES	
DEMONSTRATION PROJECTS 149 (B,C,D)	123,688,124.56
STUDIES (SECTIONS 158, 159, 164, 165, & 167)	
COMBINED ROAD PLAN	70,148,987.59
CONGESTION AIR QUALITY	339,846,680.08
HIGH COST BRIDGE	3,832,512.64
HIGH PRIORITY CORRIDOR	22,720,907.00
INNOVATIVE PROJECTS	68,671,366.78
PRIORITY INTERMODAL SEC 1108	5,037,662.00
CONGESTION RELIEF PROJECTS	2,412,665.00
RURAL ACCESS PROJECTS	20,735,085.00
URBAN ACCESS & MOBILITY PROJECTS	4,992,609.00
OTHER - TOTAL	3,014,009,530.95
TOTAL FEDERAL-AID ACCOUNT	16,671,868,771.24

U. S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

SUMMARY OF OBLIGATIONS OF FEDERAL-AID HIGHWAY FUNDS APPORTIONED OR ALLOCATED TO STATES

DURING FISCAL YEAR 1993

AS OF MARCH 31, 1993

FUND	OBLIGATIONS
FEDERAL-AID HIGHWAY ACCOUNT	
SUMMARY - BY STATE	7,902,016,451.55
INTERSTATE	
INTERSTATE CONSTRUCTION	294,704,996.64
INTERSTATE GAP CLOSING	
INTERSTATE DISCRETIONARY CONSTRUCTION	89,153,021.30
INTERSTATE 4R DISCRETIONARY - 056	555,884.42CR
INTERSTATE MAINTENANCE	1,239,975,397.96
INTERSTATE 4R	26,403,265.06
INTERSTATE 4R - MD I-83	
INTERSTATE 4R NHS DISCRETIONARY	12,999,943.00
INTERSTATE - TOTAL	1,662,680,739.54
PRIMARY, SECONDARY, URBAN, AND BRIDGE	
CONSOLIDATED PRIMARY	30,192,490.70
RURAL SECONDARY	12,626,442.29
URBAN SYSTEM	30,305,891.19
SPECIAL BRIDGE REPLACEMENT	22,622.42CR
BRIDGE REPLACEMENT AND REHABILITATION - APPORTIONED	1,016,284,141.09
BRIDGE REPLACEMENT AND REHABILITATION - DISCRETIONARY	43,499,770.88
ACCELERATION OF BRIDGES	
URGENT SUPPLEMENTAL APPN. ACT BRIDGES	
PRIMARY, SECONDARY, URBAN, AND BRIDGE - TOTAL	1,132,886,113.73
STP, NHS, AND DONOR STATE PROGRAMS	
SURFACE TRANSPORTATION PROGRAMS - TOTAL	2,009,138,951.53
NATIONAL HIGHWAY SYSTEMS - TOTAL	2,010,480,940.31
DONOR STATE BONUS - TOTAL	71,298,108.84
SAFETY CONSTRUCTION	
HAZARD ELIMINATION	16,061,460.31
RAIL-HIGHWAY CROSSINGS ON ANY PUBLIC ROAD	11,163,216.03
SAFETY CONSTRUCTION - TOTAL	27,224,676.34
FEDERAL LANDS	
FOREST HIGHWAYS	
INDIAN RESERVATION ROADS	
PARK ROADS AND PARKWAYS	
PUBLIC LANDS	921,414.20
FEDERAL LANDS - TOTAL	921,414.20
OTHER	
2 PERCENT HPR	123,134,907.70
25 PERCENT HPR RD & TT	48,425,475.31
1 1/2 PERCENT HPR	13,286,224.34
METROPOLITAN PLANNING	62,775,488.37
URBAN HIGH DENSITY	8,769,704.80
MINIMUM ALLOCATION	155,089,638.48
INTERSTATE TRANSFERS	47,048,566.20
FRANCONIA NOTCH	
DEMONSTRATION PROJECTS, SEC 131, 1982 STAA	498,355.76CR
UNION STATION, DIST. OF COL.	
BYPASS HIGHWAY	
ACOSTA AND TALMADGE BRIDGES	
DEMONSTRATION PROJECTS 149 (B,C,D)	42,466,439.24
STUDIES (SECTIONS 158, 159, 164, 165, & 167)	
COMBINED ROAD PLAN	2,251,853.89
CONGESTION AIR QUALITY	190,701,753.90
HIGH COST BRIDGE	1,704,146.00
HIGH PRIORITY CORRIDOR	40,188,893.00
INNOVATIVE PROJECTS	155,091,501.31
PRIORITY INTERMODAL SEC 1108	11,586,155.00
CONGESTION RELIEF PROJECTS	8,965,381.00
RURAL ACCESS PROJECTS	38,156,291.28
URBAN ACCESS & MOBILITY PROJECTS	4,482,238.00
OTHER - TOTAL	1,013,788,772.12
TOTAL FEDERAL-AID ACCOUNT	7,902,016,451.55

REDISTRIBUTION OF UNOBLIGATED AUTHORITY

Mr. CARR. Provide a breakdown by state of the redistribution of unobligated authority under the Federal-aid highway program made in August 1992.

[The information follows:]

State	*Amount*
Alabama	$1,718,221
Alaska	1,202,044
Arizona	3,407,547
Arkansas	1,576,689
California	11,459,911
Colorado	1,791,095
Connecticut	0
Delaware	1,506,671
District of Columbia	1,248,974
Florida	3,985,293
Georgia	6,388,859
Hawaii	1,279,225
Idaho	531,113
Illinois	2,103,782
Indiana	2,674,910
Iowa	1,452,083
Kansas	3,183,746
Kentucky	0
Louisiana	8,596,028
Maine	685,832
Maryland	3,047,687
Massachusetts	24,887,017
Michigan	3,653,479
Minnesota	3,589,046
Mississippi	2,481,314
Missouri	2,370,664
Montana	1,909,060
Nebraska	1,393,998
Nevada	937,760
New Hampshire	1,521,385
New Jersey	4,607,999
New Mexico	500,709
New York	4,220,479
North Carolina	3,646,720
North Dakota	620,513
Ohio	5,167,057
Oklahoma	3,964,237
Oregon	0
Pennsylvania	8,830,559
Rhode Island	1,269,516
South Carolina	0
South Dakota	1,509,092
Tennessee	0
Texas	11,424,190
Utah	2,279,756
Vermont	2,536,870
Virginia	3,801,762
Washington	5,436,461
West Virginia	2,898,480
Wisconsin	2,536,416
Wyoming	856,977
Puerto Rico	2,064,976
American Samoa	0
Guam	0
Northern Marianas	0
Virgin Islands	30,488
Total	168,786,690

FEDERAL-AID MISCELLANEOUS PROGRAMS

Mr. CARR. Provide a breakdown of budget authority and obligations under miscellaneous programs for fiscal years 1993 and 1994.

[The information follows:]

FEDERAL-AID MISCELLANEOUS PROGRAMS

Provided below is budget authority and estimated obligations for Federal-aid Highways miscellaneous programs for fiscal years 1993 and 1994:

[Dollars in thousands]

Program	Fiscal year 1993		Fiscal year 1994	
	Budget authority	Obligations	Budget authority	Obligations
1. Consolidated Primary	$0	$47,494	$0	$64,678
2. Rural Secondary	0	60,678	0	82,632
3. Urban Systems	0	149,498	0	203,588
4. Planning	0	30,136	0	41,040
5. Safety Projects	0	81,508	0	110,998
6. Ferry Boat Construction	17,000	17,000	17,000	17,000
7. Scenic Byways Technical Asst.	3,000	3,000	4,000	4,000
8. Interim Scenic Byways	10,000	10,367	10,000	10,183
9. University Transp. Centers	6,000	6,000	6,000	6,000
10. University Research Institutes	6,250	6,250	6,250	6,250
11. Tax Evasion Project	5,000	5,000	5,000	5,000
12. Bureau of Transp. Statistics	10,000	10,000	15,000	15,000
13. Hold Harmless	685,714	([1])	842,800	([1])
Total	742,964	426,931	906,050	566,369

[1] Obligations for this program are included within Surface Transportation Program.

INTERSTATE WITHDRAWALS

Mr. CARR. Update the information appearing on page 484 of the 1993 hearing volume concerning interstate withdrawals. Indicate the assumptions made for the program as of September 30, 1993.

[The information follows:]

ESTIMATED FEDERAL FUNDS REQUIRED TO COMPLETE SUBSTITUTE HIGHWAY AND TRANSIT PROJECTS AS OF SEPTEMBER 30, 1993

State	Withdrawal area	Estimated	
		Additional funds required [1]	Fiscal year 1994 apportionments [2]
California	San Francisco	19,278,166	9,731,040
	Sacramento	0	0
Connecticut	Bolton to Killingly	110,138,827	55,639,200
	Hartford-New Britain	4,662,248	2,351,280
Washington, DC	Washington	1,230,973	628,560
Georgia	Atlanta	10,195,451	5,144,880
Illinois	Chicago	0	0
Indiana	Indianapolis	0	0
Iowa	Waterloo	0	0
Maryland	Baltimore	10,732,511	5,424,240
	Washington	743,368	372,480
Massachusetts	Boston	0	0
	Fall River to Providence	1,225,598	628,560
Minnesota	Minneapolis-St. Paul	0	0

ESTIMATED FEDERAL FUNDS REQUIRED TO COMPLETE SUBSTITUTE HIGHWAY AND TRANSIT PROJECTS AS OF SEPTEMBER 30, 1993—Continued

State	Withdrawal area	Estimated	
		Additional funds required [1]	Fiscal year 1994 apportionments [2]
New Jersey	New York City	3,786,642	1,908,960
	New York City-Trenton	22,171,390	11,197,680
New York	Albany	0	0
	New York City	190,089,793	96,006,720
Ohio	Cleveland	0	0
Oregon	Portland	0	0
Rhode Island	Rhode Island	64,089,692	32,382,480
Tennessee	Memphis	22,553,878	11,383,920
Total		460,898,537	232,800,000

[1] Amounts are in federal funds and assume full obligation of the fiscal year 1993 apportionments and prior year discretionary allocations and formula apportionments.

[2] Shifting of funds due to fund lapses, reapportionments and transfers between areas may change individual withdrawal area needs. An update of this estimate before the FY 1994 apportionment may change the highway and transit split.

DISCRETIONARY FUNDS

Mr. CARR. Update the information appearing on page 485 of the 1993 hearing volume regarding discretionary funds.

[The information follows:]

U.S. DEPARTMENT OF TRANSPORTATION—FEDERAL HIGHWAY ADMINISTRATION—FEDERAL-AID DISCRETIONARY FUNDS

Funds	Fiscal year 1992		Fiscal year 1993	
	Authorizations	Obligations	Authorizations	Obligations
Discretionary Interstate Construction	100,000,000	100,100,591	100,000,000	85,571,498
Discretionary Interstate 4R	54,000,000	55,170,253	64,000,000	12,999,943
Discretionary Interstate Substitution	0	21,404,996	0	5,918,671
Discretionary Bridge	57,000,000	50,855,465	68,000,000	42,369,520
Emergency Relief	100,000,000	132,343,031	100,000,000	65,519,784
Emergency Relief—Public Law 101-130 (Loma Prieta Earthquake, Hurricane Hugo)	0	324,243,857	0	30,955,338
Total	311,000,000	684,118,193	232,000,000	146,859,632

[1] As of April 27, 1993.

STATE APPORTIONMENT OF BRIDGE FUNDS

Mr. CARR. Provide a table similar to the one on page 486 of the 1993 hearing volume showing the apportionment of highway bridge funds by state.

[The information follows:]

U. S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPORTIONMENT OF HIGHWAY BRIDGE REPLACEMENT AND REHABILITATION FUNDS

STATE	APPORTIONMENT FOR FISCAL YEAR 1990	APPORTIONMENT FOR FISCAL YEAR 1991	APPORTIONMENT FOR FISCAL YEAR 1992	APPORTIONMENT FOR FISCAL YEAR 1993
ALABAMA	29,204,789	28,966,313	35,028,540	39,663,738
ALASKA	3,383,818	3,408,588	5,310,928	6,396,264
ARIZONA	3,383,818	3,408,588	5,310,928	6,396,264
ARKANSAS	16,918,415	17,878,723	28,469,789	34,041,298
CALIFORNIA	43,909,509	44,387,854	126,880,178	158,443,617
COLORADO	13,709,337	12,747,163	19,654,468	24,279,190
CONNECTICUT	60,089,710	68,881,145	80,839,609	73,659,874
DELAWARE	3,977,069	3,893,289	5,364,573	6,460,871
DIST. OF COL.	10,705,183	9,504,778	11,443,063	14,286,279
FLORIDA	22,395,734	24,028,224	40,985,489	46,348,600
GEORGIA	27,594,091	26,846,035	34,215,247	43,586,590
HAWAII	4,458,113	3,685,365	13,432,462	14,640,076
IDAHO	3,383,818	3,408,588	5,521,240	6,821,231
ILLINOIS	39,567,529	39,427,541	68,276,637	84,475,636
INDIANA	22,948,514	22,832,492	29,491,204	35,064,442
IOWA	24,626,618	25,053,118	29,287,853	38,325,383
KANSAS	25,850,206	24,795,838	33,790,457	40,523,652
KENTUCKY	27,050,920	27,181,167	27,963,159	33,994,521
LOUISIANA	31,172,140	27,966,506	40,916,021	49,476,117
MAINE	8,431,799	8,365,355	14,143,849	13,494,836
MARYLAND	17,446,967	16,823,288	31,726,943	41,513,167
MASSACHUSETTS	69,919,297	77,164,422	97,671,922	121,070,765
MICHIGAN	30,913,481	30,042,199	57,153,438	70,490,398
MINNESOTA	16,871,718	17,128,152	25,623,525	27,319,718
MISSISSIPPI	20,108,679	19,277,607	32,795,401	42,467,092
MISSOURI	54,730,554	53,738,972	59,934,726	82,649,536
MONTANA	7,044,027	7,063,548	8,215,155	9,997,871
NEBRASKA	16,335,180	16,959,632	20,947,147	26,106,987
NEVADA	3,383,818	3,408,588	5,310,928	6,396,263
NEW HAMPSHIRE	7,310,266	7,593,515	11,946,046	12,571,822
NEW JERSEY	59,711,535	61,153,196	114,045,028	136,151,754
NEW MEXICO	4,469,483	4,413,439	5,658,475	6,915,384
NEW YORK	135,352,733	136,343,500	212,437,091	255,850,512
NORTH CAROLINA	27,829,334	27,500,348	46,222,275	62,223,100
NORTH DAKOTA	4,981,251	4,926,363	5,310,928	6,396,263
OHIO	42,373,527	41,726,156	90,861,275	105,276,283
OKLAHOMA	31,363,665	29,137,833	35,166,411	43,331,867
OREGON	7,449,814	7,903,015	25,167,848	30,574,649
PENNSYLVANIA	119,536,766	122,903,439	208,975,868	258,434,860
RHODE ISLAND	3,383,818	3,408,588	10,069,089	14,913,527
SOUTH CAROLINA	11,397,377	10,592,663	19,010,330	24,476,366
SOUTH DAKOTA	6,693,193	6,507,403	8,706,948	10,165,709
TENNESSEE	36,960,635	34,758,457	48,183,951	60,299,831
TEXAS	53,207,159	51,647,054	86,169,205	100,105,095
UTAH	3,383,818	3,408,587	5,310,928	9,150,494
VERMONT	7,589,769	7,627,055	10,722,065	13,267,529
VIRGINIA	29,839,864	30,634,748	48,962,887	49,328,754
WASHINGTON	30,889,930	33,849,183	48,355,568	56,042,264
WEST VIRGINIA	38,945,177	37,858,363	52,822,161	58,536,013
WISCONSIN	24,048,526	23,312,284	29,571,881	34,038,608
WYOMING	3,383,818	3,408,587	5,310,928	6,396,263
PUERTO RICO	3,911,017	4,548,146	11,701,850	16,927,742
TOTAL	1,353,527,326	1,363,435,000	2,136,393,915	2,569,764,965

MINIMUM ALLOCATION HISTORICAL DATA

Mr. Carr. Update the information appearing on page 488 of the 1993 hearing volume regarding historical data for minimum allocation.

[The information follows:]

U. S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

MINIMUM ALLOCATION
FY 1987 THRU FY 1993

STATE	FY 1987	FY 1988	FY 1989	FY 1990	FY 1991	FY 1992	FY 1993
ALABAMA	0	0	0	0	0	24,283,712	23,063,301
ARIZONA	14,341,875	9,986,271	0	41,144,624	37,499,684	48,943,184	35,588,129
ARKANSAS	14,935,596	14,442,230	28,621,158	33,719,189	30,350,883	48,853,490	30,859,557
CALIFORNIA	69,116,463	71,490,780	78,378,002	198,048,468	81,354,284	135,126,746	146,143,270
FLORIDA	29,641,331	22,763,026	90,821,023	15,909,057	145,969,063	159,082,913	135,967,289
GEORGIA	26,404,866	38,214,530	87,515,537	109,939,046	101,317,077	80,121,375	61,884,629
ILLINOIS	0	0	0	0	0	0	0
INDIANA	58,008,232	77,349,223	106,807,602	75,527,506	78,543,743	81,219,913	48,441,208
KANSAS	0	0	0	3,657,537	0	0	0
KENTUCKY	1,568,422	0	3,138,680	0	2,268,003	10,551,973	15,274,713
LOUISIANA	0	0	0	0	0	4,030,342	4,881,652
MAINE	0	0	1,955,796	0	0	1,209,959	0
MARYLAND	0	0	0	0	0	0	36,668,333
MICHIGAN	29,004,463	28,828,078	35,279,832	11,994,016	35,537,894	62,608,271	51,727,851
MISSISSIPPI	4,477,485	9,580,936	25,832,911	28,162,120	25,093,780	22,371,121	9,028,501
MISSOURI	15,147,743	10,763,223	53,205,402	40,868,426	27,057,493	56,988,903	21,155,468
NORTH CAROLINA	57,979,383	67,456,375	116,554,265	16,646,465	99,268,538	65,949,471	51,952,238
OHIO	63,643,589	81,682,478	110,076,079	110,010,448	71,201,021	98,837,335	65,109,697
OKLAHOMA	44,505,296	50,806,549	53,898,867	51,220,579	41,421,598	36,377,321	21,026,850
OREGON	0	0	7,954,867	1,777,593	13,564,561	1,257,963	0
PENNSYLVANIA	0	0	0	0	0	0	36,392,287
SOUTH CAROLINA	26,552,808	13,273,511	0	40,841,467	28,032,241	0	4,377,603
TENNESSEE	13,767,065	13,553,331	50,397,680	31,077,074	1,742,286	40,094,300	20,980,986
TEXAS	223,602,263	253,931,521	302,197,272	275,898,540	196,746,679	125,464,106	79,827,584
VIRGINIA	0	6,794,865	0	50,196,589	59,940,003	0	69,394,195
WASHINGTON	0	0	0	0	0	0	70,188,485
WISCONSIN	32,563,159	32,973,588	63,308,104	61,855,629	58,075,432	56,615,426	40,526,209
TOTAL	725,260,039	803,890,515	1,215,943,077	1,198,494,373	1,134,984,263	1,159,987,824	1,080,460,035

DONOR STATE BONUS AND HOLD HARMLESS FUNDS

Mr. Carr. Provide actual donor state bonus funds and hold harmless funds apportioned to the states in fiscal year 1993 and the estimated apportionment of these funds for fiscal year 1994, similar to the data contained on page 490 of the 1993 hearing volume.

[The information follows:]

ACTUAL FY 1993 AND ESTIMATED FY 1994 APPORTIONMENT OF THE DONOR STATE BONUS AND HOLD HARMLESS APPORTIONMENT ADJUSTMENT
(DOLLARS IN THOUSANDS)

	FY 1993		FY 1994	
STATE	DONOR BONUS	H.H. ADJUST.	DONOR BONUS	H.H. ADJUST.
ALABAMA	14,094	0	13,912	0
ALASKA	0	9,092	0	14,526
ARIZONA	8,747	24,557	8,904	19,613
ARKANSAS	7,104	13,800	6,917	12,745
CALIFORNIA	79,631	0	79,512	0
COLORADO	0	0	0	5,893
CONNECTICUT	0	0	0	0
DELAWARE	0	391	0	1,980
DIST. OF COL.	0	0	0	742
FLORIDA	33,663	0	33,017	0
GEORGIA	19,535	11,322	29,577	0
HAWAII	0	0	0	0
IDAHO	0	8,946	0	13,491
ILLINOIS	0	60,581	0	76,251
INDIANA	24,970	12,048	25,077	6,427
IOWA	0	9,765	0	14,436
KANSAS	0	8,978	0	13,178
KENTUCKY	15,625	6,021	15,626	2,033
LOUISIANA	10,236	26,485	10,857	21,763
MAINE	0	306	0	1,684
MARYLAND	10,633	11,993	0	12,207
MASSACHUSETTS	0	0	0	0
MICHIGAN	32,508	0	34,009	0
MINNESOTA	0	2,502	0	0
MISSISSIPPI	6,108	18,003	5,907	15,170
MISSOURI	19,084	20,939	19,569	14,386
MONTANA	0	21,175	0	18,288
NEBRASKA	0	0	0	0
NEVADA	0	2,748	0	4,692
NEW HAMPSHIRE	0	0	0	1,535
NEW JERSEY	0	4,212	0	39,553
NEW MEXICO	0	39,681	0	43,952
NEW YORK	0	28,699	0	27,802
NORTH CAROLINA	17,219	23,406	21,655	11,233
NORTH DAKOTA	0	5,853	0	8,243
OHIO	44,311	24,054	44,935	15,374
OKLAHOMA	8,325	14,330	8,087	10,862
OREGON	0	19,994	18,567	3,218
PENNSYLVANIA	23,994	97,460	0	0
RHODE ISLAND	0	0	0	0
SOUTH CAROLINA	10,371	0	34,308	0
SOUTH DAKOTA	0	3,593	0	13,807
TENNESSEE	17,064	13,654	16,905	8,343
TEXAS	50,615	0	50,502	0
UTAH	0	2,142	0	9,112
VERMONT	0	446	0	2,148
VIRGINIA	18,809	2,036	19,453	0
WASHINGTON	13,798	72,406	0	14,763
WEST VIRGINIA	0	0	0	923
WISCONSIN	12,136	59,834	0	47,800
WYOMING	0	4,263	0	4,350
PUERTO RICO	0	0	0	0
TOTAL	498,580	685,714	497,295	532,523

FY 1994 ESTIMATE BASED ON FY 1994 AUTHORIZATIONS AND CURRENT FACTORS.
THESE AMOUNTS WILL CHANGE WHEN ACTUAL FACTORS ARE AVAILABLE.

EMERGENCY RELIEF FUNDING

Mr. CARR. Update the table appearing on page 492 of the 1993 hearing volume showing emergency relief by state.

[The information follows:]

EMERGENCY RELIEF
obligations
(millions)

	FY 89 Obl	FY 90 Obl	FY 91 Obl	FY 92 Obl
ALABAMA	0.0	9.9	12.1	8.6
ALASKA	0.2	3.9	1.1	(0.1)
ARIZONA	0.0	(0.4)	0.0	0.0
ARKANSAS	(0.4)	1.3	0.4	0.2
CALIFORNIA	0.1	281.0	109.7	325.6
COLORADO	(0.3)	(0.6)	(0.1)	0.0
CONNECTICUT	0.0	0.0	0.5	0.0
DELAWARE	0.4	0.8	0.0	0.0
DIST. OF COL.	0.0	0.0	0.0	0.0
FLORIDA	1.6	6.2	(2.3)	0.1
GEORGIA	0.0	0.0	2.7	0.0
HAWAII	0.0	0.0	0.0	0.0
IDAHO	11.4	0.8	0.0	0.0
ILLINOIS	0.1	0.0	1.2	0.0
INDIANA	0.0	0.0	0.8	0.5
IOWA	0.0	0.0	0.0	0.0
KANSAS	0.0	0.0	0.0	0.0
KENTUCKY	0.0	1.5	0.4	0.3
LOUISIANA	0.1	0.0	0.0	0.0
MAINE	1.3	0.1	2.4	(0.8)
MARYLAND	0.0	0.0	0.0	0.0
MASSACHUSETTS	0.5	1.9	(0.3)	(0.2)
MICHIGAN	0.0	(0.4)	(0.2)	(0.2)
MINNESOTA	0.0	0.0	0.0	0.0
MISSISSIPPI	(0.2)	0.0	0.0	0.0
MISSOURI	0.0	0.0	0.4	0.1
MONTANA	0.0	0.0	0.0	0.0
NEBRASKA	0.0	0.6	0.7	0.2
NEVADA	0.0	0.0	0.0	0.0
NEW HAMPSHIRE	0.0	0.0	0.0	0.0
NEW JERSEY	6.6	(0.2)	0.0	(0.3)
NEW MEXICO	0.0	0.0	0.0	0.0
NEW YORK	0.0	0.0	0.0	(0.1)
NORTH CAROLINA	(1.2)	0.0	5.5	(2.5)
NORTH DAKOTA	0.0	0.0	0.0	0.0
OHIO	0.0	0.0	0.2	0.3
OKLAHOMA	(0.3)	(0.2)	1.1	2.2
OREGON	(1.0)	(0.1)	3.1	0.2
PENNSYLVANIA	(0.3)	(0.2)	0.0	0.0
RHODE ISLAND	0.0	0.0	0.0	0.0
SOUTH CAROLINA	0.0	38.5	9.2	1.3
SOUTH DAKOTA	0.0	0.0	0.0	0.0
TENNESSEE	1.0	3.1	2.2	(0.1)
TEXAS	0.3	3.0	2.3	0.0
UTAH	2.4	0.1	3.3	4.5
VERMONT	0.0	0.0	0.0	0.0
VIRGINIA	0.6	(0.1)	0.0	0.0
WASHINGTON	66.0	10.4	34.8	109.0
WEST VIRGINIA	(1.0)	0.3	(0.2)	(0.2)
WISCONSIN	0.0	0.0	0.0	0.0
WYOMING	0.0	0.0	0.0	0.0
PUERTO RICO	0.7	7.5	3.6	3.4
VIRGIN ISLANDS	0.0	1.5	1.2	0.0
AMERICAN SAMOA	0.0	0.4	1.8	1.7
GUAM	0.0	0.0	1.2	0.1
Subtotals:	88.6	370.6	198.8	453.8
BIA	0.1	0.0	0.7	0.5
BLM	0.0	0.0	0.0	0.0
FOREST SERVICE	1.1	4.4	6.5	4.7
PARK SERVICE	0.1	2.6	3.1	0.1
Subtotals:	1.3	7.0	10.3	5.3
TOTALS:	89.9	377.6	209.1	459.1

DISCRETIONARY BRIDGE PROGRAM

Mr. CARR. Provide a table similar to the one on page 493 of the 1993 hearing volume relating to the discretionary bridge program. Provide the amounts allocated to date, by project. Also provide information indicating pending discretionary bridge project applications.

[The information follows:]

The following table lists major discretionary bridge projects that have been funded in fiscal year 1993. The table includes both continuing (previously funded) projects and new (previously unfunded) projects. The total amount allocated to date in fiscal year 1993 is $61.7 million.

[Dollar amounts in millions]

State	Bridge name	Project cost	Federal share	Past allocation	Amount allocated fiscal year 1993
IL	Clark (US67)	$118.4	$79.2	$73.3	$0.7
MN	Bloomington Ferry	58.2	46.6	33.6	10.8
NY	I95/Eastchester Ck	37.2	28.1	.0	14.0
CN	Lake Saltonstall	24.5	19.6	.0	9.8
IL	Poplar Street	71.4	54.6	.0	13.5
MN	Blatnik	25.8	13.9	.0	6.9
NY	East Tremont Ave	10.5	8.4	.0	6.0
	Total				61.7

[1] The project cost, Federal share, past allocation and amount allocated refer to Federal discretionary funds only.

HIGHWAY TRUST FUND BALANCES

Mr. CARR. Update the table appearing on page 495 of the 1993 hearing volume relating to highway trust fund balance projections. Assume no changes to current law. Also show a similar table that assumes restoration of the 2.5 cents of the highway tax currently applied to deficit reduction.

[The information follows:]

HIGHWAY TRUST FUND ANALYSIS
FY 1994 CONGRESSIONAL BUDGET
(DOLLARS IN MILLIONS)

(EXCLUDES 2.5 CENTS TAX INCREASE)

	FY 1991	FY 1992	FY 1993	FY 1994	FY 1995	FY 1996	FY 1997	FY 1998
Highway Trust Fund Balance:								
Balance Start of Year	16,783.913	19,496.064	21,098.383	19,978.522	16,576.576	13,180.144	9,509.494	4,666.805
Tax Receipts	16,978.686	16,733.412	17,806.000	18,245.000	18,563.0	18,837.0	19,193.0	19,498.0
Interest	1,474.075	1,654.504	1,529.700	1,273.600	953.2	724.9	523.0	256.6
Outlays (–)	(15,740.610)	(16,785.596)	(20,455.561)	(22,920.546)	(22,912.6)	(23,232.5)	(24,558.7)	(24,921.0)
Balance End of Year	19,496.064	21,098.383	19,978.522	16,576.576	13,180.144	9,509.494	4,666.805	(499.636)
Investment Rate	0.00000	0.07250	0.06375	0.05750	0.05500	0.05500	0.05500	0.05500
Mass Transit Account:								
Balance Start of Year	7,154.959	9,250.122	9,798.160	10,027.021	9,992.9	9,871.0	9,763.4	8,688.0
Tax Receipts	2,484.976	1,069.825	1,959.000	1,987.000	2,022.0	2,059.0	2,093.0	2,121.0
Interest	664.302	746.058	710.400	639.200	574.600	542.900	537.000	477.800
Outlays (–)	(1,054.115)	(1,267.845)	(2,440.539)	(2,660.363)	(2,718.5)	(2,709.4)	(3,705.4)	(3,793.2)
Balance End of Year	9,250.122	9,798.160	10,027.021	9,992.858	9,871.0	9,763.4	8,688.0	7,493.6
Highway Account								
Balance Start of Year	9,628.954	10,245.942	11,300.224	9,951.502	6,583.7	3,309.2	(253.9)	(4,021.2)
Tax Receipts	14,493.710	15,663.587	15,847.000	16,258.000	16,541.0	16,778.0	17,100.0	17,377.0
Interest	809.773	908.446	819.300	634.400	378.600	182.000	(14.000)	(221.200)
Outlays (–)	(14,686.495)	(15,517.751)	(18,015.022)	(20,260.183)	(20,194.1)	(20,523.1)	(20,853.3)	(21,127.8)
Balance End of Year	10,245.942	11,300.224	9,951.502	6,583.719	3,309.2	(253.9)	(4,021.2)	(7,993.3)

HIGHWAY TRUST FUND ANALYSIS
FY 1994 CONGRESSIONAL BUDGET
(DOLLARS IN MILLIONS)

(INCLUDES 2.5 CENTS TAX INCREASE)

	FY 1991	FY 1992	FY 1993	FY 1994	FY 1995	FY 1996	FY 1997	FY 1998
Highway Trust Fund Balance:								
Balance Start of Year	16,783.913	19,496.064	21,098.383	19,978.522	16,576.576	13,180.144	12,842.494	11,596.105
Tax Receipts	16,978.686	16,733.412	17,806.000	18,245.000	18,563.0	22,170.0	22,606.0	22,925.0
Interest	1,474.075	1,654.504	1,529.700	1,273.600	953.2	724.9	706.3	637.8
Outlays (−)	(15,740.610)	(16,785.596)	(20,455.561)	(22,920.546)	(22,912.6)	(23,232.6)	(24,558.7)	(24,921.0)
Balance End of Year	19,496.064	21,098.383	19,978.522	16,576.576	13,180.144	12,842.494	11,596.105	10,237.864
Investment Rate	0.00000	0.07250	0.06375	0.05750	0.05500	0.05500	0.05500	0.05500
Mass Transit Account:								
Balance Start of Year	7,154.959	9,250.122	9,798.160	10,027.021	9,992.9	9,871.0	10,434.4	10,085.9
Tax Receipts	2,484.976	1,069.825	1,959.000	1,987.000	2,022.0	2,730.0	2,783.0	2,815.0
Interest	664.302	746.058	710.400	639.200	574.600	542.900	573.900	554.700
Outlays (−)	(1,054.115)	(1,267.845)	(2,440.539)	(2,660.363)	(2,718.5)	(2,709.4)	(3,705.4)	(3,793.2)
Balance End of Year	9,250.122	9,798.160	10,027.021	9,992.858	9,871.0	10,434.4	10,085.9	9,862.4
Highway Account								
Balance Start of Year	9,628.954	10,245.942	11,300.224	9,951.502	6,583.7	3,309.2	2,408.1	1,510.2
Tax Receipts	14,493.710	15,663.587	15,847.000	16,258.000	16,541.0	19,440.0	19,823.0	20,110.0
Interest	809.773	908.446	819.300	634.400	378.600	182.000	132.400	83.100
Outlays (−)	(14,686.495)	(15,517.751)	(18,015.022)	(20,260.183)	(20,194.1)	(20,523.1)	(20,853.3)	(21,127.8)
Balance End of Year	10,245.942	11,300.224	9,951.502	6,583.719	3,309.2	2,408.1	1,510.2	575.4

LARGEST RESEARCH AND DEVELOPMENT CONTRACTORS

Mr. CARR. Update the information on page 503 of the 1993 hearing volume dealing with the largest research and development contractors for the FHWA.

[The information follows:]

The 10 contractors with the largest dollar value in awards are:

Contractor:	*Amount*
PCS/LAW Engineering	$4,218,075
National Academy of Sciences	3,424,346
Georgia Tech. Research Corp	3,321,253
Farradyne	3,055,094
Loral Aerosys	2,942,679
Honeywell	2,584,897
National Center for Earthquake Engineering Research	2,500,000
Department of Energy	2,013,500
Battelle Human Affairs	1,200,000
AEPCO	1,176,544

IN-HOUSE RESEARCH PROJECTS

Mr. CARR. Update the information appearing on pages 504–506 of the 1993 hearing volume regarding major in-house research projects scheduled for completion in fiscal year 1993, in addition to those planned for initiation in 1993 and 1994. Include the estimated cost of each project.

[The information follows:]

Title	Total Cost
I. Major in-house research projects scheduled for completion in FY 1993:	
Validation of Minimum Sign Luminance Requirements	$80,000
Effectiveness of Urban Freeway Lighting	$14,500
Entrance Angle Requirements for Retroreflective TrafficSigns	$20,000
Design of Safety Applications for Geographic InformationSystems	$25,000
Effect of Different ATIS Display Configurations on NavigationalPerformance	$31,600
Travel Time Estimation Based on Closed-Loop System Output	$9,600
Study on the Traffic Assignment Model (TRAFFIC) in CORFLO	$28,800
Miscellaneous Programs Testing	$19,200
Development of a Methodology of Data File Conversion from UTPS to TRAF Systems	$16,800
Comparative Analysis of FREFLO and FRESIM	$16,800
Investigations into IVHS Communication System	$11,200
Evaluate the Impact of Autonomous Vehicles Operating Among Manually Controlled Vehicles	$16,100
Variability of Travel Time Data and Its Applications to IVHS	$15,400
Incident Detection Issues	$28,800
Development and Evaluation of Freeways Incident DetectionAlgorithm	$19,200
Development of Real-Time Freeway Ramp Metering Algorithms	$19,200
Stone Matrix Asphalt (SMA) - Development of MixtureTests	$50,000
Stone Matrix Asphalt (SMA) - Stabilizing Additives	$20,000
Evaluation of Natural Sands Used in Asphalt PavingMixtures	$50,000
Chemical Modification of Asphalts	$40,000
Evaluation of the Effects of Single Tires on Pavement Response and Performance	$1,337,000
Measurement and Significance of the Thermal Coefficients of Portland Cement Concrete - Phase I	$50,000
Image Analysis of Air Void Systems in Concrete - Feasibility	$25,000
Roughness Measurement in Construction Control	$25,000
Variable Load Amplitude Fatigue	$220,000
Practical Assumptions for Bridge Pier Scour	$13,000
Load Prediction and Structural Response	$19,000
Wearing Surface Abrasion Testing on Modular BridgeDeck	$18,000

Dynamic Response of an FRP Grating-Reinforced Concrete Bridge Deck Slab	$22,000
Nature and Optimization of Chemically Modified Asphalts	$174,400
Evaluation of Environmental Compliance of Volatile Organic Compound (VOC) Coating Systems	$47,800

II. In-house research planned for initiation in FY 1993:

Development of Computerized Curvature and Grade Files	$5,000
Safety of Longer Combination Vehicles	$5,000
Driving Performance of People with Sleep Apnea	$25,000
Effects of Driver Spatial Ability on Safe Use of ATIS Displays	$15,000
Study on the Effects of Metal-Halide Headlamps on Color Fidelity of Traffic Signs and Markings	$30,000
Impact Behavior of Laminated Anisotropic Beams	$50,000
Stone Matrix Asphalt (SMA) - Effects of Mineral Fillers (Planned)	$35,000
Evaluation of FHWA Gyratory Testing Machine	$20,000
International Cooperative Subgrade Soil Performance Project	$350,000
SHRP Asphalt Specification tests with the Accelerated Loading Facility (ALF)	$2,300,000
Measurement and Significance of the Thermal Coefficients of Portland Cement Concrete - Phase II	$50,000
Alternative Protective Measures for Bridge Scour	$75,000
A Systematic Study of the Variability in the SHRP Binder Specification Tests	$32,000
Development of Accelerated Test Procedures for Evaluating the Effectiveness of Corrosion Inhibitors in Highway Deicers	$5,000
Effects of Asphalt Modifications on Asphalt-Aggregate Interactions and Performance	$5,000
Fundamental Rheological Studies of Chemically Modified Asphalts	$5,000

III. In-house research planned for initiation in FY 1994:

Cross Comparison of Dynamic, Static, and Field Sign Recognition	$45,000
Accuracy of GPS for Accident Data Collection	$10,000
Development of Safety Applications for Geographic Information Systems	$20,000
Effects of Perceptual Factors on Closure Rates	$20,000
Validation of the Highway Driving Simulator	$14,200
Partial Sleep Deprivation and Driving Performance	$25,000
Effects of In-Vehicle Displays on Critical Event Processing	$10,000

Lateral Acceleration on Horizontal Curves	$89,000
In-Vehicle Signing for Motorist Information	$11,000
Commercial Vehicle Operations Selected Topics	$16,000
Evaluation of Natural Sands Used in Asphalt Paving Mixtures, II	$35,000
Evaluation of Alkali-Silica Reactivity in Concrete Test Procedures and Equipment	$75,000
Evaluation of Modified Freeze-Thaw Test Procedures for Concrete	$200,000
Image Analysis of Air Void Systems in Concrete - Application	$25,000
Curved (Bridge) Girder Behavior	$250,000
Fiber Reinforced Polymer (FRP) Hangar Cable Installation	$25,000
Aerodynamic Response of Lightweight Composite Bridge Decks	$65,000
Accelerated Testing of New Environmentally Compatible Coating Systems for Steel Bridges	$53,400
Microstructure of Asphalts	$40,000
Improved Chemical Modification of Asphalts	$140,000
Evaluation of New Instruments for Measuring Air, Cements, and Water Content of Fresh Concrete	$75,000

HP&R AND NCHRP PROGRAMS

Mr. Carr. Update the information appearing on page 507 of the 1993 hearing volume relating to funding for the HP&R and National Cooperative Highway Research Program.

[The information follows:]

Funds to be made available for SP&R (HP&R) and NCHRP Programs.

Program	Fiscal year 1993	Fiscal year 1994
SP&R	$315,250,181	$328,780,000
NCHRP [1]	17,338,735	18,082,900

[1] Note.—Funds for the NCHRP come from contributions by States from SP&R funds.

CLEAN AIR ACT STUDIES AND RESEARCH

Mr. Carr. Provide information on studies and research conducted or planned related to the Clean Air Act similar to that appearing on pages 523–526 of the 1993 hearing volume.

[The information follows:]

Studies and Research Related to the Clean Air Act Amendments:

1. Project Title: Assessment of Highway Particulate Impacts

   Purpose: This research, which was initiated in FY 91 and will run through FY 93, will include (1) a critical review of existing knowledge of the highway system's contribution to the small particulate (PM-10) air quality problem; (2) studies to fill in gaps in the current understanding; and (3) if appropriate, the development of techniques to quantify and mitigate highway system impacts. This research is critical, because the new conformity provisions contained in the Clean Air Act Amendments (CAAA) of 1990 also apply to PM-10 nonattainment areas. However, emissions data and analytical tool are currently lacking to make effective conformity determinations for this pollutant.

   Estimated Cost: Contracted at $437,932

   Scheduled Completion Date: November 1994

2. Project Title: Improve the Integration of Transportation and Air Quality Planning.

   Purpose: This project is a joint grant by EPA and DOT to the National Association of Regional Councils (NARC) to research and help facilitate the development and implementation of transportation/air quality techniques and procedures needed by Federal, State, and local transportation and air quality agencies to comply with the transportation provisions of the CAAA of 1990. In addition to providing an interagency forum for discussion and coordination, it provides for panels to look into technical matters needing further research and analysis.

   Estimated Cost: $1,225,000 (Jointly funded: FHWA-$725,000; FTA-$200,000; and EPA-$300,000)

   Scheduled Completion Date: November 1994

3. Project Title: Air Quality Technical Services

   Purpose: This research would facilitate development of transportation related air quality policies and procedures such as developing updated emission factor tables to allow for streamlined air quality analyses; evaluating air quality violations for receptor location criteria and for air pollutant dispersion, transport, and persistence; evaluating existing guidance on the analysis of alternatives to achieve air quality standards, including the no-build alternative, alternative modes, and transportation system management and demand management options;

synthesizing information and providing analysis of the merits and potential of inspection and maintenance (I & M) programs and various technological fixes; and developing guidance related to Clean Air Act implementation and air quality analyses.

Estimated Cost: $1,200,000

Scheduled Completion Date: Spring 1995

4. Project Title: Analyze and Develop Improved Modeling Procedures for Determining CO Levels at Intersections, Including Overcapacity Situations.

Purpose: This research is a joint effort by FHWA and the National Cooperative Highway Research Program (NCHRP) and will involve an extensive collection (to provide a national perspective) of monitored CO, meteorologic, and traffic data at intersections for comparison with model outputs. It will also evaluate existing air quality intersection models against the new data sets under a range of assumptions, including signal timing, turning movements, queue lengths, etc. Finally, it will develop a new and more accurate air quality intersection model, since improved model accuracy is extremely important under the new CAAA of 1990.

Estimated Cost: $2,500,000 (Jointly funded: FHWA-$1,500,000 and NCHRP-$1,000,000)

Scheduled Completion Date: Fall 1996

5. Project Title: FHWA/FTA Joint Operational Action Program To Improve Mobility

Purpose: This program has been initiated and funded jointly with FTA to demonstrate innovative, multi-modal transportation projects. The types of projects receiving funds include: parking pricing, telecommuting, bus signal preemption, advanced vehicle identification/location, and incident management. Project demonstrations awarded FY 1991 and FY 1992. No additional demonstrations planned.

Estimated Cost: $3,300,000

Scheduled Completion Date: Awards Completed

6. Project Title: Effective Travel Demand Management(TDM) Actions

Purpose: This research project is being conducted to develop guidance and technical assistance materials for public and private sector personnel responsible for implementing TDM actions. A microcomputer model to determine the effectiveness of TDM actions is also being developed under this research project. Training course planned for FY 1994.

Estimated Cost: $260,000

Scheduled Completion Date: Sept. 1993

7. Project Title: Traffic Control Hardware and Software Demonstration Project

Purpose: This project will demonstrate the capabilities of various components of hardware and software to relieve congestion.

Estimated Cost: $500,000

Scheduled Completion Date: Continuing

8. Project Title: Highway Incident Management Demonstration Project

Purpose: This demonstration project titled "Highway Incident Management" is being developed as a two-day workshop to help establish incident management as a routine emergency response function. The demonstration project is part of FHWA's "Marketing Plan" and will be offered to State and local agencies.

Estimated Cost: $500,000

Estimated Completion Date: Continuing

9. Project Title: Improve Travel Forecasting Techniques to Respond to the Requirements of the Clean Air Act Amendments and the Intermodal Surface Transportation Efficiency Act.

Purpose: A multi-agency (FHWA, FTA, EPA) research effort is underway to redesign the travel forecasting process in response to the Clean Air Act Amendments and the Intermodal Surface Transportation Efficiency Act requirements. This will lead to new techniques to forecast land development and travel impacts of new transportation policies.

Estimated Cost: $5,000,000
Completion Date: Multi-year Effort

10. Project Title: TRANSIMS - Transportation Simulator

Purpose: This project, through the Los Alamos National Laboratory, will use state of the art computer technology to provide micro level simulation of region wide travel patterns. This project also supports the initiative to convert National Laboratory capabilities to civilian applications.

Estimated Cost: $10,000,000 ($1,000,000 committed)
Completion Date: Multi-year Effort

11. Project Title: Evaluate the Effects of Land Use and TDM Policies on

Travel.

Purpose: A research project is developing procedures to estimate the effects of land use and TDM policies on travel -- both at the local (site) level and at the regional level.

Estimated Cost: $330,000

Scheduled Completion Date: November 1993

12. Project Title: Update Highway Performance Management System (HPMS) Analytical Process.

Purpose: The FHWA is updating the analytical relationships in HPMS to include traffic usage patterns, emission estimation, and user cost estimation. This will result in improved, more effective data analysis for air quality, VMT, and congestion monitoring and reporting of system performance. It will also include methods to capture, display and analyze HPMS data for use in transportation planning.

Estimated Cost: $ 4,000,000

Completion Date: Multi-year effort

DEMONSTRATED RESEARCH PROJECTS

Mr. Carr. Provide information on FHWA research currently being demonstrated similar to the information appearing on pages 540–542 of the 1993 hearing volume.

[The information follows:]

Listed below are some of the innovative technologies and concepts currently being promoted and demonstrated to highway agencies for adoption. There is some duplication of projects listed last year along with some new ones that have been added. Each of these projects involves a project manager who becomes technically proficient with the new technology, a technical working group of practitioners representing FHWA, the States and the private sector, to help guide the project, and a team of engineers and technicians to carry out the workshops, seminars and on-site demonstrations. Because of the logistics involved in dealing with 50 states and numerous local agencies, as well as locating suitable field construction sites, projects are multi-year in nature. Project duration varies, but is generally two to four years. During that time, most States will be visited.

Evaluation of Highway Safety Hardware-Inservice performance evaluations of new highway safety devices continued and were shared with the highway community. For example, evaluation of breakaway timber utility pole hardware allowed this system to be declared operational and ready for routine use as a countermeasure for safely treating hazardous poles that cannot be removed. This advancement presents a new opportunity for the private sector manufacturing. Also, a final report the use of ice detection and weather information systems is in the final stages of completion. Seven installations were part of this inservice evaluation which resulted in these systems being accepted for routine use.

Retroreflectivity-Pavement marking and sign retroreflectivity provide nighttime visibility for drivers and is recognized by highway agencies as essential for highway safety. A multi-year effort on evaluating retroreflectivity equipment with the goal of developing guidelines for signs and pavement markings was initiated in 1993. This project will stimulate a new industry for manufacturing of retroreflective equipment.

Corridor Safety Improvement Program (CSIP)-The CSIP is a joint FHWA-NHTSA initiative designed to address severe accident problems in arterial corridors. CSIP is based upon a comprehensive approach involving engineering, enforcement, emergency medical services (EMS), and public awareness and education working in combination to reduce accidents and injuries. Using this approach, interdisciplinary teams evaluate the corridor from all perspectives including the highway, the driver, the vehicle and EMS. To date 26 States have received presentations and as a result, 14 States have initiated projects.

Geographic Information and Video Imagery Systems-The power of Geographic Information Systems (GIS) when coupled with video images and laser disc technologies provide the newest tools used in intelligent highway information decision making. These technologies are being promoted to State and local transportation agencies through hands-on demonstrations with the latest in high-tech equipment. Highway application of these technologies will continue to be expanded as Global Positioning System (GPS) receivers are incorporated into these demonstrations.

Relieving Traffic Congestion Through Incident Management-Incidents such as spilled loads, breakdowns and accidents account for more than 60 percent of freeway delay and the percentage is rising. Preplanned and coordinated action is needed by responding agencies to detect and remove incidents as quickly as possible. Workshops designed for multi-agency and multi-disciplinary audiences continue to be presented where both the technical and administrative aspects of carrying out a program of effective responses are discussed.

Advanced Traffic Control Technologies-The largest mobile demonstration of intersection traffic control and IVHS technology ever assembled is now touring the US and is expected to visit every State and most major cities over the next two years. The combination hands-on demonstration and workshop will expose hundreds of traffic engineers, technicians and managers to leading edge electronic equipment that, if properly utilized by State and local highway agencies, will, as a minimum, reduce vehicle delay by 15 percent, vehicle stops by 16 percent, excess travel time by 7 percent, and excess fuel consumption by 9 percent. This is a public-private industry partnership involving 24 companies and system software firms joining with the FHWA to reduce urban traffic congestion.

Fast Track Concrete Paving—For many years, field engineers have been concerned about the time a highway needs to be closed during concrete pavement rehabilitation. For this reason, Accelerated Rigid Paving Techniques (Fast Track Concrete Paving) continues to be a strong need within the States. Fast tracking may include high early strength mixes, curing blankets, zero clearance equipment, incentives-disincentives, and innovative joint sawing-sealing techniques. This FHWA project has supported the development and implementation of new fast track technology in partnership with the American Concrete Pavement Association to the point that Fast Track projects have been constructed successfully. As an example, a 90 mm (3½-inch) overlay on a 1.6 km (1-mile), two-lane roadway was placed and opened in less than 48 hours; a year later, the pavement is in excellent condition. Other fast track projects have been constructed successfully, including Interstate highway sections and secondary roads. Design and testing assistance on fast tracking has been provided to 14 State highway agencies.

Bridge Management System—Over 40 percent of the Nation's 575,000 highway bridges are functionally obsolete or structurally deficient, resulting, in some cases, in safety hazards and higher user costs. To meet the urgent need for a comprehensive, implementable bridge management system (BMS), the FHWA, in cooperation with the California Department of Transportation, is developing new software. PONTIS (Latin for bridge) is a network-level BMS, which includes a detailed bridge data base and the models necessary to predict maintenance and improvement needs, recommend optimal policies, and schedule projects within budget and policy constraints. PONTIS is a design tool for budget analysts and engineering managers to develop annual long-range maintenance and improvement programs and budgets, and produce strong quantitative backing for budget requests to funding authorities and elected officials. A working version of PONTIS has been delivered to selected States for initial implementation and testing.

Geotechnical Applications Microcomputer Programs—Four microcomputer programs designed for geotechnical applications have been upgraded and field tested. The program "COM 624P" analyzes piles and drilled shafts which are subjected to horizontal loads such as those generated by wind loading on an overhead sign structure. A recently added module to "COM 624P," "PMEIX," assists with the design of the reinforcing bar cage for poured-in-place concrete piles and shafts. The program "EMBANK" determines one-dimensional compression settlements due to loads from embankments. "CBEAR" calculates bearing capacity for shallow spread footing foundations and "SPILE" determines the ultimate static capacity of piles in either cohesive or cohesionless soils. Currently under development are microcomputer programs for design of walls and for slope stability analysis.

Stone Matrix Asphalt—The FHWA is also drawing on other countries for asphalt pavement technology. In late 1990, a 21-member study group representing the FHWA, the American Association of State Highway and Transportation Officials (AASHTO), the National Asphalt Pavement Association, The Asphalt Institute, the Strategic Highway Research Program, and the Transportation Research Board toured six European countries.

One of the technologies that was brought back to the United States from the study tour was Stone Matrix Asphalt (SMA). It is an asphalt mixture developed in Germany to provide a rut resistant pavement surface layer. The strength of SMA is attributable to a "gap-graded" aggregate gradation that results in a stone-to-stone structure held together by a durable asphalt filler, fiber mastic. Initial SMA projects were constructed during 1991 in Georgia (I-85), Michigan (M-52), Missouri (I-70), and Wisconsin (I-94).

Additional projects were constructed during 1992 in Alaska (US-1), California (I-40), Maryland (US-15), Ohio (US-33), Wisconsin (I-43), Colorado (US-85), Georgia (I-75), Illinois (US-6), Michigan (I-94 and I-96), Missouri (US-63), New Jersey (US-1), North Carolina (US-264), Texas (US-377), Virginia (US-29), and Wyoming (I-80). Data from these projects are being analyzed and model specifications have been disseminated. Further evaluation is targeting mixture design, cost reduction, quality control, and predictive performance of the SMA pavements. Eventually SMA could be used by all States as a rut resistant pavement surface.

Field Management of Concrete Mixes—Major projects are underway to demonstrate new concrete technology. Eight 2-day workshops and seven field demonstrations were conducted under the Field Management of Concrete Mixes project on bridge and paving projects. The concrete technology mobile laboratory was displayed at several regional, national, and international meetings, including the Transportation Association of Canada meeting in Winnipeg, Canada. In addition, testing equipment was loaned to four States under the project. Many activities under this project are conducted in partnership with the concrete industry.

National Quality Initiative—A unique partnership between FHWA, AASHTO, and various industry associations has been established to form a National Quality Initiative Steering Committee. This committee will provide guidance on the national direction of construction quality issues. Working groups, composed of six or fewer members of the steering committee are developing quality training courses and seminars. A 5-day course, "Quality Management and Statistical Quality Control" and a 2-day workshop have been developed.

DISADVANTAGED BUSINESS ENTERPRISE ACTIVITY

Mr. CARR. Update the information appearing on pages 547-548 of the 1993 hearing volume relating to disadvantaged businesses.

[The information follows:]

There are no significant changes contained in the new legislation affecting the DBE Supporting Services Program. However, the FHWA continues its recent initiatives:

The regionally administered Entrepreneurial Development Institute (EDI) in association with the Historically Black Colleges and Universities in an eight state area. It is anticipated that a contractor will be selected for the first phase of this effort in June 1993; and

Plans continue for the development and implementation of an enhanced Indian Out-Reach effort in selected States that will assist Indian owned businesses to participate in the DBE Program.

These initiatives will require a continued Federal commitment.

DISADVANTAGED BUSINESS ENTERPRISE AWARDS IN THE FEDERAL-AID HIGHWAY PROGRAM, FISCAL YEAR 1978 - FISCAL YEAR 1992

Fiscal Year	Dollar (millions)	Percent	Number of Contracts
1978..................	126.09	1.9	1,200
1979..................	163.70	2.2	1,574
1980..................	232.70	2.9	1,625
1981..................	355.18	4.3	3,585
1982..................	415.54	5.3	4,125
1983..................	719.74	8.9	6,990
1984..................	1,269.25	13.6	12,421
1985..................	1,278.60	11.5	13,091
1986..................	1,198.94	11.0	12,233
1987..................	1,525.72	14.7	16,441
1988..................	1,586.99	14.6	14,914
1989..................	1,571.89	14.4	14,277
1990..................	1,441.13	13.9	13,873
1991..................	1,554.71	13.9	15,236
1992..................	1,655.66	12.7	16,577

ALLOCATION OF MBE SUPPORTIVE SERVICES FOR FISCAL YEARS 1977 THRU 1992 (AMOUNTS IN DOLLARS)

FISCAL YEARS

STATE	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	TOTAL
ALABAMA	65,500	79,600	46,900	53,400	60,000	38,500	60,000	226,000	189,783	188,446	219,000	110,000	262,613	107,552	148,800	148,900	2,004,994
ALASKA	26,300	129,400	30,000	44,400	154,200	40,200	60,000	200,000	114,939	70,000	130,000	124,670	150,000	0	150,000	140,000	1,564,109
ARIZONA	33,100	66,100	51,300	30,000	87,000	58,400	79,500	180,144	132,759	135,992	161,000	108,290	131,865	123,000	123,000	198,000	1,699,450
ARKANSAS	35,000	30,000	30,000	31,900	46,500	33,500	60,000	200,000	90,882	96,168	144,045	90,000	109,515	86,761	115,000	132,000	1,333,269
CALIFORNIA	172,400	270,000	270,000	270,000	270,000	270,000	270,000	450,000	684,288	670,186	500,000	500,000	500,000	475,000	475,800	527,288	6,574,962
COLORADO	36,700	68,000	88,100	105,800	89,200	88,800	97,200	106,568	149,688	156,344	186,656	150,150	189,975	68,065	100,000	2,000	1,685,246
CONNECTICUT	26,300	30,000	30,000	33,300	87,300	30,000	60,000	175,000	191,565	216,559	200,000	227,500	225,000	80,000	55,400	120,000	1,789,924
DELAWARE	26,300	30,000	30,000	30,800	30,000	30,000	60,000	60,000	70,000	50,000	90,000	90,000	90,000	90,000	90,000	90,000	957,100
DIST. OF COL.	26,300	196,200	190,000	41,900	184,500	50,200	68,300	230,000	70,000	70,000	90,000	90,000	90,000	90,000	0	0	1,487,400
FLORIDA	79,000	129,500	95,500	93,700	184,000	130,200	199,400	300,000	300,000	300,000	460,000	332,150	425,768	180,790	244,300	244,400	3,698,708
GEORGIA	67,800	80,200	69,900	74,400	92,400	75,400	122,900	450,000	267,300	268,099	375,000	238,420	300,608	0	190,000	190,100	2,862,527
HAWAII	26,300	30,000	30,000	30,000	30,000	30,000	60,000	100,000	83,754	95,195	95,195	95,195	95,195	89,000	89,500	89,000	1,068,334
IDAHO	26,300	30,000	46,100	40,800	30,000	30,000	60,000	196,000	70,000	70,910	90,000	90,000	90,000	90,195	120,000	85,000	1,165,305
ILLINOIS	172,400	259,500	167,000	270,000	270,000	191,900	183,200	450,000	312,741	329,295	493,245	298,480	372,128	208,269	221,664	221,500	4,421,322
INDIANA	36,800	39,200	47,800	51,900	59,200	46,400	94,800	400,000	155,925	164,162	210,000	153,790	194,445	95,000	101,113	101,000	1,951,535
IOWA	26,300	30,000	30,000	30,000	30,000	30,000	60,000	133,000	133,650	147,649	150,000	133,770	164,273	100,045	82,400	112,500	1,393,587
KANSAS	26,300	60,300	30,000	31,500	30,000	45,300	60,000	60,000	105,000	88,000	95,000	95,000	95,000	58,990	130,000	85,500	1,095,890
KENTUCKY	26,300	35,600	30,000	30,000	30,000	30,000	60,000	120,000	120,000	170,962	244,165	131,950	149,911	80,920	111,600	111,700	1,483,108
LOUISIANA	71,700	87,400	61,000	142,000	82,300	61,400	87,200	220,000	200,000	200,000	200,000	200,000	200,000	90,766	115,000	56,600	2,075,366
MAINE	26,300	30,000	30,000	42,200	87,300	45,300	60,000	122,000	70,000	70,000	90,000	90,000	90,000	0	80,000	96,000	1,028,100
MARYLAND	46,500	42,700	270,000	270,000	251,400	206,200	130,300	125,400	125,400	0	53,000	150,000	150,000	100,000	125,000	120,372	2,166,272
MASSACHUSETTS	26,300	39,200	84,400	49,700	61,500	37,200	60,000	300,000	165,726	237,986	356,475	400,000	356,483	250,000	380,000	300,000	3,104,970
MICHIGAN	56,000	70,900	73,200	75,100	81,700	92,300	162,000	70,000	233,442	258,385	387,030	234,780	300,608	141,259	150,346	150,000	2,537,050
MINNESOTA	26,300	43,400	79,400	75,200	97,700	59,800	60,000	0	174,636	196,217	293,910	167,440	187,740	127,945	136,176	136,000	1,862,564
MISSISSIPPI	46,500	82,600	66,300	68,100	70,800	44,700	60,000	90,000	101,574	105,880	116,880	100,100	100,100	80,000	80,000	80,000	1,293,534
MISSOURI	48,400	82,600	77,700	49,100	76,300	49,900	60,000	76,000	76,000	100,000	100,000	100,000	125,000	132,340	159,600	166,500	1,479,440
MONTANA	26,300	71,100	67,600	38,600	39,700	35,200	60,000	126,700	86,427	91,309	91,309	90,000	109,515	123,000	56,000	180,000	1,292,760
NEBRASKA	26,300	30,000	30,000	32,200	30,000	30,000	60,000	120,000	84,645	91,309	110,000	90,000	98,340	79,400	75,800	85,500	1,073,494
NEVADA	26,300	30,000	85,000	68,500	30,000	67,200	60,000	125,000	70,000	70,000	90,000	90,000	90,000	83,000	85,000	168,292	1,238,292
NEW HAMPSHIRE	26,300	30,000	30,000	30,000	30,000	30,000	60,000	75,000	70,000	70,000	90,000	0	0	116,670	0	140,000	797,970
NEW JERSEY	45,600	71,700	61,500	99,800	86,100	74,400	87,900	150,000	257,499	293,355	305,000	257,530	300,000	0	130,000	165,000	2,385,384
NEW MEXICO	26,300	97,900	47,900	42,600	37,400	67,000	76,400	108,410	79,299	88,395	132,405	90,000	106,163	120,272	139,000	197,100	1,456,544
NEW YORK	104,700	173,300	270,000	270,000	270,000	270,000	270,000	450,000	505,000	600,000	500,000	120,319	500,000	430,000	420,000	387,920	5,541,239
NORTH CAROLINA	73,800	73,800	74,900	96,600	82,600	76,600	97,400	200,000	171,072	192,332	192,332	181,132	201,332	119,332	154,000	154,300	2,143,532
NORTH DAKOTA	26,300	30,000	30,000	30,800	30,000	30,000	60,000	106,000	70,000	70,000	90,000	90,000	90,000	91,000	109,900	110,000	1,064,000
OHIO	57,000	77,400	69,200	79,500	84,000	79,000	270,000	450,000	295,812	290,188	366,000	287,560	357,600	74,346	79,131	79,000	2,995,737
OKLAHOMA	37,600	148,900	73,200	44,200	30,000	32,600	60,000	75,000	92,500	92,500	92,500	100,000	127,500	68,180	62,700	49,300	1,186,680
OREGON	29,500	30,000	32,900	60,700	71,700	45,800	67,100	100,000	107,811	70,189	63,000	72,000	127,395	119,000	186,400	100,000	1,283,495
PENNSYLVANIA	76,600	58,000	74,200	72,800	113,500	90,800	110,400	300,000	433,026	425,461	468,007	412,230	483,835	265,650	380,900	307,840	4,063,349
RHODE ISLAND	26,300	30,000	30,000	31,300	30,000	30,000	60,000	70,000	70,000	70,000	70,000	0	100,000	50,000	0	140,000	807,600
SOUTH CAROLINA	38,100	39,900	41,000	44,900	57,700	47,100	70,000	70,000	70,000	122,393	122,393	102,830	103,000	82,457	84,300	84,300	1,180,373
SOUTH DAKOTA	26,300	30,000	30,000	30,000	30,000	30,000	60,000	80,000	60,000	70,000	90,000	90,000	90,000	63,000	33,000	79,000	891,300
TENNESSEE	32,800	44,400	45,400	60,000	48,900	55,600	60,000	200,000	178,200	108,200	300,000	183,820	230,205	115,234	151,300	151,300	1,965,359
TEXAS	172,400	270,000	183,500	182,100	222,500	199,400	220,500	350,000	400,000	500,000	500,000	500,000	500,000	308,911	400,000	444,500	5,353,811
UTAH	26,300	30,000	30,000	34,200	30,000	30,000	60,000	63,212	100,000	90,000	90,000	90,000	0	90,000	130,000	120,000	1,013,712
VERMONT	26,300	30,000	30,000	30,000	30,000	30,000	60,000	70,000	70,000	70,000	70,000	70,000	70,000	70,000	65,000	55,000	846,300
VIRGINIA	72,400	154,700	49,100	135,900	147,500	87,200	112,800	150,000	175,000	173,040	173,040	200,200	200,200	90,000	90,000	146,788	2,157,868
WASHINGTON	34,200	86,500	270,000	270,000	113,900	107,000	222,700	250,000	232,551	200,000	200,000	200,000	280,000	180,000	0	150,000	2,796,851
WEST VIRGINIA	26,300	30,000	30,000	34,300	33,400	30,000	60,000	70,000	108,702	0	126,049	60,800	32,164	90,000	80,000	90,000	911,715
WISCONSIN	26,300	30,000	30,000	52,000	67,800	63,500	60,000	332,000	127,413	138,906	208,065	134,880	164,273	98,651	102,870	102,500	1,756,958
WYOMING	26,300	30,000	30,000	31,100	30,000	30,000	60,000	60,000	60,000	70,000	90,000	2,000	32,000	76,000	80,000	79,000	786,400
PUERTO RICO	0	0	0	30,000	30,000	30,000	60,000	60,000	70,000	70,000	60,000	70,000	55,000	50,000	40,000	30,000	656,000
TOTALS	2,400,000	3,800,000	3,800,000	4,000,000	4,400,000	3,544,000	4,900,000	9,251,434	8,434,009	8,588,010	10,220,701	8,086,786	9,804,849	6,000,000	6,900,000	7,500,000	101,429,789

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POSITION ALLOCATIONS

Mr. CARR. Update the chart appearing on page 551 of the 1993 hearing volume regarding the allocation of positions among the various activities of the Federal Highway Administration.

[The information follows:]

	Fiscal year—	
	1993	1994
Program Direction and Coordination:		
Executive Direction	19	19
Program Review	5	5
Legal Services	36	36
Public Affairs	4	4
Civil Rights	18	18
General Program Support:		
Policy	91	91
Research and Development	124	124
Administration	291	291
Career Development	151	151
Highway Programs:		
Program Development	209	209
Safety & System Applications	111	111
Motor Carriers	707	707
Federal Lands Highway Office	18	18
Field Operations	1,588	1,588
Total, GOE	3,372	3,372

FIELD OPERATIONS STAFF

Mr. CARR. Provide a breakdown of FHWA field operations staff by activity. Also indicate how many staff, by activity, are colocated with personnel of the Federal Transit Administration.

[The information follows:]

As of March 31, 1993, the field operations staff, by activity, is as follows:

	Amount
Executive Direction	29
Legal Services	27
Civil Rights	20
Planning and Research	204
Administrative Support	391
Engineering and Operations	891
Total	1,562

No FHWA personnel are colocated with Federal Transit Administration personnel. There are five locations where FTA personnel are housed within the same building as FHWA personnel. Those locations are: New York City, New York; Atlanta, Georgia; Fort Worth, Texas; Kansas City, Missouri; and San Francisco, California.

TRAVEL COSTS FOR OFFICE OF MOTOR CARRIERS

Mr. CARR. Provide a chart showing travel costs of the Office of Motor Carriers by function similar to the chart appearing on page 569 of the 1993 hearing volume. Include 1992 actual, and 1993 and 1994 estimated data.

[The information follows:]

OFFICE OF MOTOR CARRIERS TRAVEL FUNDING BY CATEGORY

[Dollars in thousands]

Category	Fiscal year— 1992 actual	1993 estimated	1994 estimated
Program (inspections, reviews, etc.)	$3,129	$3,053	$3,164
Washington Office Directed	280	274	282
Regional Conferences	582	604	622
Training	722	723	745
Change of station	77	77	79
Foreign travel	55	59	61
Inflation factor		163	134
Total travel	4,845	4,953	5,087

MOTOR CARRIER RESEARCH PROGRAM

Mr. CARR. Provide information similar to that appearing on pages 578–580 of the 1993 hearing volume relating to research and development activities of the motor carrier safety program.

[The information follows:]

OFFICE OF MOTOR CARRIERS
RESEARCH PROJECTS FOR FY 91, FY 92 AND FY 93
(In thousands)

Project	FY 91 Costs	FY92 Costs	FY93 Costs
Evaluation of Innovative Converter Dollies	13	--	--
Operation of the Information and Dissemination and Quality Programs of MCMIS 300	442	300	96
SAFETYNET Software Augmentation	193	--	--
Fatigue and Driver Alertness Study	586	804	172
Supplement the National Highway Traffic Safety Administration's General Estimate System	75	75	75
Pilot of Model State Medical Review Standards	32	--	89
cks Involved in Fatal Accidents	50	50	75
Zero Based Review of Regulations	--	150	319
MCMIS Systems and Configuration Study	--	100	100
Comments to NPRM Docket on Hazardous Material Routing	--	50	--
Regulatory Impact Analysis for 10,000 to 26,000 lb Vehicles		13	
Analysis and Reporting of MCSAP Inspections	60		
Training Drivers on Twin Trailers		14	
Ohio Test Track		100	
SAFETYNET Technical Support		100	

Project	FY 91 Costs	FY92 Costs	FY93 Costs
SAFETYNET Laptop Support		138	
Optical Disk Scanning Service	--	48	--
Truck Travel Data Conference		6	
Physiological Measurement of CMV Drivers	--	21	137
Motor Coach Passenger Safety	--	150	46
Truck Tire Characteristics	--	50	50
Lap Top Support	--	150	100
Prototype State Medical Review	--	400	292
IFTA Repository	--	50	50
Use of Low Speed WIM for Weight Enforcement	--	140	--
Staff Support for Uniformity Working Group Meeting	--	25	--
mercial Motor Vehicle Driver Alcohol Testing and Regulatory Impact Analysis	--	10	--
Support for Implementation of the April 1, 1992 CDL Deadline	--	10	--
Regulatory Impact Analysis for Drugs and Alcohol	--	6	--
Section 22 HM Uniformity Working Group	--	250	221
Drivers Vision Evaluation	--	300	716
Hazardous Materials Incident Countermeasures	--	75	148
Motor Coach Driver Training	--	--	100
Criteria for Training Drivers on the Safe Operation of Triple Trailer Combination Truck Vehicles			25
er/Carrier Data	--	--	150
Safety Performance Data Analysis			9

Project	FY 91 Costs	FY92 Costs	FY93 Costs
elopment of Voluntary Criteria for Training Drivers in the Safe Operation of Turnpike Doubles and Rocky Mountain Combination Truck Vehicles			25
Pilot Section 22 HM Uniformity			150
SAFETYNET Enhancements			155
OMC Informational Materials			75
Relevant Evidence Demo Project			100
LCV Accident Study			100
Quality Improvements for Safety Fitness Determination			300
On-Call Bus Driver Human Factors			50
Feasibility of Safety Investment and Performance Model			125
International Symposium on Motor Carrier Transportation			13
Review and Revise Medical Examination Materials and Forms			20
TOTALS	1,898.9	3,579.0	4,183.0

MOTOR CARRIER RESEARCH PROGRAM

Mr. Carr. In fiscal year 1993, the motor carrier research program amounted to 8.7 percent of the total FHWA research effort. In 1994, however, it equates to 18 percent, and the level of effort nearly doubles. What are the reasons for this significant change in priorities?

[The information follows:]

In fiscal year 1993, the motor carrier research budget was $4.2 million. In fiscal year 1994, the request is for $7.7 million. The major reasons for the requested increase are the OMC's proposed research, in accordance with the 5-year plan, to both sustain and expand its examination of human factors, vehicle safety, data communications, and industry efficiency and uniformity issues. The motor carrier industry, the driving public, and Congressional concerns have prompted this expansion.

Moreover, the increase in the percentage of FHWA research funds devoted to motor carrier research is more a factor of the decrease in other FHWA research area funding proposals in fiscal year 1994 rather than an increase in motor carrier related research.

FUNDING FOR LCV RESEARCH

Mr. Carr. How much of the $7,700,000 requested will be devoted to research on longer combination vehicles (LCVs)?

[The information follows:]

Specific LCV research proposed in fiscal year 1994 includes:

$125,000—Review of the design standards for controlled access highways to accommodate LCVs; and

$75,000—Assessment of accident data on LCVs.

In addition, the FHWA and NHTSA will continue their research on LCV driver stress and vehicle operating characteristics as mandated by the ISTEA.

Finally, proposed fiscal year 1994 human factor and vehicle systems research will affect a variety of vehicle and driver operations. LCV driver and vehicle operations will benefit from these efforts, although these vehicles are not specifically targeted in the research.

MCS FIVE-YEAR RESEARCH PROGRAM

Mr. Carr. Provides a brief overview of the major points of the Office of Motor Carriers new five-year research program, giving indications of phasing and level-of-effort planned.

[The information follows:]

The five-year research program includes eight broad areas of research: driver proficiency, commercial vehicle safety and performance, safety analysis and information, regulatory compliance and enforcement, inspections and technology, regulatory reform, industry health, and advanced technology. Objectives of the research are to reduce accidents, increase program operating efficiency and productivity, incorporate emerging technologies into motor carrier and field operations, ensure the medical fitness of drivers, reduce burdensome regulations, and foster a higher level of stewardship.

Between fiscal year 1994 and fiscal year 1998, much of this research will build upon studies completed in the first half of the decade. For example, completed baseline driver fatigue data will be used to establish effective countermeasures, driver rest and recovery requirements, and effective hours-of-service rules. Studies will continue to evaluate medical conditions, sleep disorders and driver use of controlled substances. By the end of the decade, FHWA expects to have established new medical standards and substance abuse countermeasures.

Vehicle systems research will move beyond determining appropriate inspection procedures and regulations to evaluate new technologies and equipment and tractor-trailer compatibility issues. Assessment of emerging roadside inspection technologies, some derived from mid-90's IVHS/CVO research, will be undertaken with the goal of applying these technologies to enhancing inspections and out-of-service verifications, and reducing vehicle delays and maintenance.

Zero-base research to develop performance-based motor carrier regulations will move from culling recommendations for change to implementing them. There will be numerous improvements to the system's data collection, analysis and reporting activities. New uniformity programs will be examined for further improvements, such as the combining of registration and fuel tax reporting procedures into a single system.

The level-of-effort proposed for fiscal year 1994 motor carrier research is $7.7 million. In fiscal year 1995, we anticipate an increase in the research budget.

MOTOR CARRIER SAFETY WORKLOAD DATA

Mr. CARR. Update the motor carrier safety data appearing on page 582 of the 1993 volume.

[The information follows:]

OFFICE OF MOTOR CARRIERS
WORKLOAD DATA

	Fiscal Year					
	1989	1990	1991	1992	EST 1993	PLAN 1994
Number of driver/vehicle inspections	2,357	3,039	1,751	*	*	*
Number of carrier reviews	18,422	19,038	17,838	20,129	21,000	21,500
Number of investigations	1,609	1,843	2,255	2,224	2,350	2,400
Number of enforcement cases prosecuted and closed	1,133	1,551	1,825	1,907	2,000	2,050
Amount of fines settled ($000s)	4,591	7,302	8,400	10,155	9,000	9,500

Fiscal Year	1988	1989	1990	1991	1992
Total Carriers...	187,000	190,000	216,000	238,000	247,000
Total H/M shippers *	25,000	25,000	13,000	13,000	14,000
Total entities	212,000	215,000	229,000	251,000	261,000
Safety specialists and safety specialist trainees	303	256	320	366	397
Ratio staff to entities	1:1,038	1:700	1:840	1:716	1:657
Ratio staff to drivers	1:21,226	1:14,851	1:17,573	1:15,027	1:13,854

* The data through 1989 includes HM shippers that are also HM carriers. Post-1989 data indicate HM shippers only.

TRUCK ACCIDENTS REPORTED

Mr. **Carr**. Update the table appearing on page 584 of the 1993 hearing volume regarding truck accidents reported to the Office of Motor Carriers.

[The information follows:]

TRUCK ACCIDENTS REPORTED TO THE OFFICE OF MOTOR CARRIERS 1979 TO 1991

Effective in 1986, the minimum reporting threshold for property damage accidents was increased from $2,000 to $4,200, and again in 1987 and subsequent years to $4,400 in order to more accurately account for the effects of inflation. This caused what appeared to be a dramatic decrease in accident counts from 1985 to 1986. Therefore, the Office of Motor Carriers has applied an adjustment factor equivalent to an approximate GNP deflator to property damage accident counts and property damage value for the years prior to 1986. The following table reflects the adjusted property damage and total accident counts.

ADJUSTED TRUCK ACCIDENT STATISTICS 1979 to 1991

(The following statistics may vary slightly from previously reported statistics due to refinements in the data)

Calendar Year	Fatal Accidents	Fatalities	Injury Accidents	Injuries	Property Damage Only	Total Accidents	Property Damage Limit
1982	1,978	2,456	16,354	26,117	8,669	27,001	3,350
1983	2,031	2,528	16,022	26,692	7,979	26,032	3,675
1984	2,195	2,721	17,792	29,149	9,592	29,579	3,897
1985	2,161	2,646	18,135	28,988	8,772	29,068	4,047
1986	2,101	2,616	15,084	25,106	9,044	26,229	4,200
1987	2,410	2.907	16,734	28,018	8,335	27,479	4,400
1988	2,675	3,309	18,504	31,295	11,599	32,778	4,400
1989	2,642	3,451	19,556	34,653	13,143	35,341	4,400
1990	2,569	3,258	19,144	33,771	18,322	40,035	4,400
1991	2,417	3,036	18,800	32,889	13,188	34,405	4,400

MOTOR CARRIER SAFETY GRANT DATA

Mr. Carr. Provide a listing by state for fiscal year 1992 of the grants made for inspections, safety reviews, and enforcement, the number of roadside inspections, and the number of vehicles and drivers placed out of service, similar to the information appearing on pages 588–589 of the 1993 hearing volume.

[The information follows:]

FY 1992 State by State Chart on Grants, Roadside Inspections, and Out-of-Service Vehicles and Drivers

State	Amount($)	Inspections	OOS Vehicles	OOS Drivers
AL	1,152,651	14,126	4,535	1,278
AK	225,000	1,677	734	83
AZ	796,683	26,399	9,189	3,151
AR	787,024	46,083	10,021	4,723
CA	2,500,000	54,873	15,272	1,584
CO	876,710	46,619	7,623	1,908
CT	538,924	18,592	5,609	718
DE	225,000	4,475	1,523	504
GA	1,730,247	27,317	9,267	2,295
HI	225,000	3,732	587	165
ID	490,799	8,569	2,789	897
IL	2,500,000	89,008	16,523	5,631
IN	1,766,264	54,323	13,595	2,025
IA	1,108,477	35,656	10,461	2,315
KS	1,111,389	16,471	5,652	1,023
KY	1,047,097	96,020	25,625	7,028
LA	974,715	36,703	11,800	3,345
ME	340,854	6,271	2,843	637
MD	886,596	64,443	13,257	2,756
MA	959,812	24,813	3,962	892
MI	2,089,441	46,442	13,849	2,416
MN	1,397,484	28,817	6,642	3,620
MS	784,316	21,537	7,028	1,368
MO	1,479,312	65,741	29,092	7,908
MT	465,751	20,615	3,994	1,489
NE	804,217	20,153	4,576	3,035
NV	321,926	8,519	2,737	711
NH	225,000	13,665	2,575	535
NJ	1,290,367	23,772	5,162	1,198
NM	517,944	15446	4,269	1,559
NY	2,500,000	41,472	16,410	3,467
NC	1,669,474	62,424	17,032	3,707
ND	563,849	16,673	2,456	1,047
OH	2,370,369	70,134	25,512	6,016
OK	1,236,706	11,920	2,895	815
OR	960,054	24,246	7,641	1,573
PA	2,500,000	49,867	16,195	3,003
RI	225,000	6,561	1,991	674
SC	858,239	19,864	4,894	1,295

TN	1,252,248	113,554	45,395	10,239
TX	2,500,000	77,644	19,099	10,214
UT	480,482	20,853	7,496	715
VT	225,000	5,626	1,352	379
VA	1,257,810	35,491	9,916	1,649
WA	1,204,368	62,046	17,155	3,058
WV	431,275	14,595	3,478	801
WI	1,281,179	63,127	7,122	3,393
WY	353,461	6,988	1,421	951
AS	225,000	1,294	418	24
DC	225,000	3,371	489	39
GU	225,000	5,048	1,338	0
PR	225,000	1,961	915	27

MCSAP DISCRETIONARY AND DIAP FUNDS

Mr. CARR. Update the information appearing on pages 590–591 of the 1993 hearing volume dealing with activity under the drug interdiction assistance program.

[The information follows:]

All of these arrests and activities are directly related to the transportation of controlled substances in commercial motor vehicles.

The number of significant seizures by fiscal year follows:

FY 1990—10 major seizures.
FY 1991—27 major seizures.
FY 1992—59 major seizures.
FY 1993—56 major seizures.

The number of law enforcement personnel trained since the inception of DIAP are:

FY 1990—1,549.
FY 1991—1,864.
FY 1992—1,764.
FY 1993—837 to date.

The total of drugs and currency seized are as follows:

131,367 pounds of marijuana.
34,080 pounds of cocaine.
7.5 pounds of methamphetamine.
$3.1 million in U.S. Currency.

FY 1992 Discretionary/Reallocated Funds

Alabama	$150,000	Commercial vehicle enforcement pilot project and CDL testing.
Alaska	$ 72,000	Salaries, travel, training, and printing.
Arizona	$ 64,395	Bus inspection ramps, traffic enforcement activities, fitness-for-duty project, and high risk driver project.
Arkansas	$ 50,000	Basic inspection program.
Colorado	$ 77,142	Commercial vehicle enforcement pilot project.
Connecticut	$ 26,064	CDL testing, training, enforcement equipment, automated systems.
Hawaii	$ 50,000	Commercial vehicle enforcement pilot project.
Iowa	$ 24,000	CDL Testing
Idaho	$483,236	Public information program, training, traffic enforcement activities, laptop computers, and pen-based computer hardware and software.
Indiana	$259,496	Traffic enforcement, training, special enforcement projects.
Kansas	$ 74,000	CDL testing and commercial vehicle enforcement pilot project.
Kentucky	$450,760	CDL testing.
Maine	$ 48,000	Traffic enforcement.
Massachusetts	$390,839	Traffic enforcement, CDL testing, and training.
Michigan	$213,163	Public information program and training.
Minnesota	$180,562	Training
Missouri	$169,134	CDL testing, training, and hazardous materials detection equipment.
Nebraska	$ 23,782	CDL testing.
Nevada	$ 10,000	Develop bus inspection training module.
New Hampshire	$154,227	Travel, computer equipment, traffic enforcement equipment, and special enforcement project.

New Jersey	$281,376	CDL testing.
New York	$103,200	Traffic enforcement, regulations training, and laptop computers.
North Carolina	$162,119	CDL testing, alcohol testing equipment, training, and upgraded computer equipment.
North Dakota	$ 8,000	Upper Great Plains University study on roadside inspection and accidents.
Ohio	$ 40,320	Laptop computers.
Oklahoma	$ 20,160	CDL testing.
Oregon	$115,899	Public information program, traffic enforcement, and inspection activities.
Rhode Island	$113,254	CDL testing, and traffic enforcement.
Tennessee	$294,240	CDL testing, automated form readers, and laptops.
Texas	$ 80,000	CDL testing.
Utah	$166,713	Judicial Outreach project.
Virginia	$ 60,160	Commercial vehicle enforcement pilot project.
Washington	$192,784	Commercial vehicle enforcement pilot project, strike force, and inspections.
West Virginia	$164,740	Traffic enforcement and 28 Radix hand-held computers for electronic transfer of inspection data to SAFETYNET.
Wisconsin	$ 76,000	CDL testing.
Wyoming	$ 57,156	CDL testing.

FY 1992 DRUG INTERDICTION ASSISTANCE PROGRAM

California	$187,495	Drug interdiction activities.
Idaho	$ 48,000	Drug interdiction activities.
Iowa	$ 10,320	Drug interdiction activities.
Illinois	$ 28,000	Drug interdiction activities.
Maryland	$ 20,000	Drug interdiction activities.
Missouri	$ 15,280	Drug interdiction activities.
North Carolina	$ 14,285	Drug interdiction activities.
Oklahoma	$198,435	Drug interdiction activities.
Texas	$212,505	Drug interdiction activities.
West Virginia	$ 65,680	Drug interdiction activities.

DISCRETIONARY AND DIAP FUNDS UNDER MOTOR CARRIER SAFETY ASSISTANCE PROGRAM

Mr. CARR. Provide a breakdown by state of discretionary funds made available under the motor carrier safety assistance program in fiscal year 1992. Provide a similar analysis for the drug interdiction assistance program for fiscal year 1992 and 1993 to date.

[The information follows:]

FY 1992 discretionary/reallocated

State	*Amount*
Alaska	$72,000
Alabama	150,000
Arizona	60,715
Colorado	77,142
Connecticut	26,064
Hawaii	50,000
Iowa	2,000,000
Idaho	483,236
Indiana	259,496
Kentucky	400,000
Massachusetts	390,839
Maryland	377,914
Maine	48,000
Michigan	213,163
Minnesota	1,575,700
Missouri	48,286
North Carolina	109,631
North Dakota	8,000
Nebraska	1,321,761
New Hampshire	154,227
New Jersey	1,519,228
Nevada	10,000
New York	103,200
Ohio	195,320
Oregon	115,899
Rhode Island	113,254
Tennessee	229,762
Utah	1,368,722
Virginia	60,160
Washington	192,784
Wisconsin	76,000
West Virginia	164,740
Wyoming	57,156
FY 1992 Drug Interdiction Assistance Program:	
California	187,495
Iowa	10,320
Illinois	28,000
Maryland	20,000
North Carolina	14,285
Oklahoma	198,435
Texas	212,505
West Virginia	65,680

RAILROAD-HIGHWAY CROSSINGS DEMONSTRATION PROJECTS

Mr. CARR. Update the information shown on page 598 of the 1993 hearing volume regarding railroad-highway crossings demonstration projects. Indicate project allocations, obligations and estimated costs.

[The information follows:]

The updated information is shown in the following table.

RAILROAD--HIGHWAY CROSSING DEMONSTRATION PROJECTS
Allocations, Obligations, and Estimated Costs
As of March 31, 1993
(Amounts in Thousands of Dollars)

					ESTIMATED PROJECT COST	
CITY	SOURCE	TYPE OF PROJECT	FEDERALS FUNDS ALLOCATED	FEDERALS FUNDS OBLIGATED	ALL FUNDING SOURCES	FEDERAL DEMO FUNDS ONLY
Elko, NV	73 Highway Act	Rail Relocation	$41,931	$41,931	$44,800	$41,931
Lincoln, NE	73 Highway Act	Grade Separations	$27,576	$26,482	$35,200	$28,700
Wheeling, WV	73 Highway Act	Rail Relocation	$600 (a)	$333	$600	$600
Blue Island, IL	73 Highway Act	Grade Separations	$230 (a)	$0	$0	$0
Carbondale, IL	73 Highway Act	Rail Relocation	$26,520	$21,310	$28,600	$27,200
Dolton, IL	73 Highway Act	Grade Separations	$585 (a)	$0	$0	$0
E. St. Louis, IL	73 Highway Act	Grade Separations	$8,661	$6,152	$28,700	$27,300
Springfield, IL	73 Highway Act	Rail Relocation	$30,319	$25,440	$39,200	$30,300
New Albany, IN	73 Highway Act	Rail Relocation	$2,326	$2,326	$2,595	$2,326
Anoka, MN	73 Highway Act	Grade Separations	$2,898	$2,898	$3,050	$2,898
Brownsville, TX Matamoros, Mexico	73 Highway Act	Rail Relocation	$17,104	$11,421	$36,000	$34,000
Greenville, TX	73 Highway Act	Grade Separations	$9,500	$9,465	$14,800	$9,486
Lafayette, IN	74 Highway Amends.	Rail Relocation	$35,195	$30,984	$123,800	$72,400
Hammond, IN	74 Mass Trans. Act	Rail Relocation	$14,370	$11,082	$18,600	$14,400
Metairie, LA	76 Highway Act	Grade Separations	$1,702	$1,702	$4,300	$1,702
Augusta, GA	76 Highway Act	Rail Relocation	$18,049	$11,686	$121,400	$94,200
Pine Bluff, AR	76 Highway Act	Consol./Gr.Sep.	$14,527	$12,293	$15,800	$14,500
Sherman, TX	76 Highway Act	Grade Separations	$0 (b)	$0	$0	$0
Terre Haute, IN	77 Approps. Act	Grade Separations	$6,000	$5,513	$5,800	$5,500
		TOTALS	$258,093	$221,018	$523,245	$407,443

(a) Demonstration aspects ineligible since project failed to meet the legislated deadline. The West Virginia allocation was made available, in accordance with congressional advice, for Federal-aid system improvements. The Blue Island and Dolton, Illinois, projects have been withdrawn.

(b) Withdrew from the demonstration program--project is being advanced with regular Federal-aid highway funds.

NATIONAL RECREATIONAL TRAILS GRANTS

Mr. CARR. Provide a detailed analysis of all funds obligated to date under the National Recreational Trails Grants Program.

[The information follows:]

The National Recreational Trails Funding Program is new. Program guidance was released on March 30, 1993. Congress did not provide funds for this program in fiscal year 1992, and provided only $7.5 million (of the $30 million authorized) in fiscal year 1993.

The first project approvals and obligations are just beginning. As of April 29, 1993, $312,772 has been obligated ($95,935 is recorded in the FMIS). The following States have obligated funds for administrative expenses (7% of the State allocation):

Kentucky—$8,962.
Nevada—$5,825.
New Mexico—$5,967.
Texas—$15,981.

Indiana has obligated $59,200 (half of its allocation).

Pennsylvania obligated $216,837. This represents $15,715 for Program Administration, and $201,122 for 16 trails projects. Authorization for one project was withheld pending further coordination with the Pennsylvania Historic and Museum Commission and the DER. [Pennsylvania received 87 trails applications totalling $3,565,000.]

Pennsylvania has complied with the requirement that 30% of the funds go for motorized trail use, 30% for non-motorized use, and 40% for diversified use. Of the 17 proposed projects, 16 were for diversified trail use: some were diversified non-motorized, some were diversified motorized, and some diversified for both motorized and non-motorized.

Because this is a new program, some States still need to develop their processes. Many States expect to obligate their funds within the next few months. The funds are available for four years.

RIGHT-OF-WAY REVOLVING FUND

Mr. CARR. Updat the information appearing on page 606 of the 1993 hearing volume regarding obligations of the right-of-way revolving fund.

[The information follows:]

As of March 31, 1993—$26,000,000.

Right-of-way revolving fund obligations for FY 1993

State	*Obligations*
New Jersey	$3,000,000
Missouri	5,000,000
North Dakota	750,000
Utah	850,000
California	12,000,000
Nevada	3,000,000
Washington	2,000,000
Effective March 31, 1993	26,000,000

MISCELLANEOUS HIGHWAY TRUST FUND ACTIVITIES

Mr. CARR. Provide the obligations incurred to date during fiscal year 1993 and the remaining unobligated balance for each of the miscellaneous highway trust fund activities listed on page 608 of the 1993 hearing volume.

[The information follows:]

Following are actual FY 1993 obligations and unobligated balances for each program within the Miscellaneous Highway Trust Fund account as of March 31, 1993:

MISCELLANEOUS HIGHWAY TRUST FUND

[In thousands of dollars]

	FY 1993 obligations to date	Unobligated balance
Carpool/Vanpool Projects	0	116
Intermodal Urban Demonstration Project	0	45,875
Highway Safety & Economic Development	2,284	37,464
Highway Safety Improvement Demo	1,642	4,971
Highway Rail Grade Crossing Safety	0	25,204
Highway Demonstration Projects	4,628	0
Bridge Capacity Improvements	75	7,730
Vehicular Hwy. Safety Sep	1,849	9,017
Corridor Safety Improvement	0	30,600
Highway Widening & Improvement	0	1,344
Climbing Lane & Highway Safety Demo	0	3,840
Alabama Highway Bypass Demo	0	3,200
Kentucky Bridge Demo Proj	1,166	5,234
Virginia HOV Safety Demo Proj	0	1,600
Urban Hwy Corridor & Bicycle Transp. Proj	0	3,392
Urban Airport Access Safety Demo Proj	0	3,840
Pennsylvania Reconstruction Demo Proj	0	6,400
Pennsylvania Toll Road Demo Proj	0	3,200
Baltimore-Washington Parkway	0	3,898
Trust Fund Share of Other Hwy. Prgms	0	17,188
Metropolitan Planning	1,824	1,176
Highway Projects	14,867	258,889
Nuclear Waste Transp. Safety	0	1

FEDERAL-AID HIGHWAY LIMITATION EXEMPTIONS

Mr. CARR. Provide the estimated fiscal year 1994 obligations for each of the exemptions to the limitation on obligations for Federal-aid Highways as listed under section 1002(b) of ISTEA, similar to the information contained on pages 610–611 of the 1993 hearing volume.

[The information follows:]

Fiscal Year 1994 Estimated Obligations

[Dollars in millions]

(1) Section 125, Emergency Relief, of Title 23, U.S.C	$100
(2) Section 157, Minimum Allocation, of Title 23, U.S.C	$1,126
(3) Section 147, Acceleration of Bridge Projects, of the Surface Transportation Assistance Act of 1978	$0
(4) Section 9, of the Federal-Aid Act of 1981 (bridge rehabilitation)	$0
(5) Section 131(b) and 131(j), Demonstration Projects, of the Surface Transportation Assistance Act (STAA) of 1982	$0
(6) Section 404, Authorizations, of the STAA of 1982	$0
(7) The following sections of ISTEA Section 1103, High Cost Bridge Projects Section 1104, Congestion Relief Projects Section 1105, High Priority Corridors on the National Highway System Section 1106, Rural and Urban Access Projects Section 1107, Innovative Projects Section 1108, Priority Intermodal Projects	$647
(8) Other ISTEA Exemptions	$64

RECYCLED RUBBER USE REQUIREMENT

Mr. CARR. Section 1038 of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) provides that each state satisfy a minimum utilization requirement for asphalt pavement containing recycled rubber, beginning with a 5-percent requirement for 1994 and increasing up to 20 percent for fiscal year 1997 and subsequent years. This requirement can be set aside for three years under certain circumstances, such as a finding that asphalt pavement containing recycled rubber substantially increases the threat to human health or the environment. The legislation tasks the Department of Transportation (DOT) and the Environmental Protection Agency (EPA) with studying (1) the health and environmental effects of asphalt pavement containing recycled rubber, (2) the degree to which asphalt pavements containing recycled rubber can be recycled, and (3) the performance of asphalt pavement containing recycled rubber under various climate and use conditions.

What is DOT's position on the advisability of imposing a minimum state utilization requirement for asphalt pavement containing recycled rubber in 1994?

[The information follows:]

The main concern with implementing the minimum utilization requirements in 1994 is that only a few States have experience in using this technology. To help them, we developed and presented 2-day workshops in Atlanta, Albany, Chicago, Denver, Dallas, Reno, and Spokane in February/March of this year. Over 1,400 from the States and the asphalt paving industry attended. We have encouraged the States to construct trial projects prior to 1994 to gain "hands on" experience before the minimum utilization requirements become effective. Most States are expected to do so. At this time, we anticipate the States will be able to meet the minimum utilization requirements.

Mr. CARR. What is the status of the DOT/EPA study on asphalt pavement containing recycled rubber?

[The information follows:]

FHWA and EPA have worked closely on the studies since passage of ISTEA. The initial phase of the studies required by Section 1038 is nearing completion, and we are jointly preparing the report required by 1038(b)(5). We plan to continue evaluating long term performance and recycling.

Mr. CARR. What is currently known about the health and environmental consequences of using recycled rubber in asphalt pavements?

[The information follows:]

Information on the chemicals involved is being evaluated by EPA. We have information from seven studies of the environmental effects of using recycled rubber in asphalt pavement. Our joint report to Congress will address this issue.

Mr. CARR. What are the recycling potential and limitations of asphalt pavement using recycled rubber?

[The information follows:]

To date, data is available on only two projects, one in Ontario, Canada, constructed in 1991, and one in New Jersey constructed in 1992. No problems attributable to the rubber content of the pavement were encountered during the recycling operations. It is too early to predict differences in performance due to the presence of rubber.

Mr. CARR. What degree of performance variability could be expected for asphalt pavements containing recycled rubber based on various climatic and use conditions?

[The information follows:]

Use of asphalt pavements containing recycled rubber has not been widespread. Arizona and California have used more than the rest of the States combined. They have experienced good performance in their uses, in their climates. Attempts to predict performance for other uses, and under other climatic conditions, based on those two States' experiences, would be risky, at best.

Mr. CARR. How do asphalt pavements containing recycled rubber compare with conventional asphalt pavements?

[The information follows:]

Crumb rubber is one of a family of materials used to modify the proprieties of asphalt cement (binder). The modifiers are used to change the characteristics of the asphalt cement to meet specific needs of an asphalt pavement. As an example, rubber might be added to increase the high temperature viscosity of the asphalt as a measure to reduce susceptibility to rutting of the pavement in hot climates. It is difficult to make general comparisons between asphalt pavements containing recycled rubber and conventional asphalt pavements unless usage, climate, etc., are specified.

Mr. CARR. What is the cost differential between conventional asphalt pavements and those containing recycled rubber?

[The information follows:]

Present costs are 20% to upwards of 100% more for asphalt pavements containing recycled rubber, depending on the process involved. As use increases, we would expect the price to come down, perhaps to the 20% to 75% range.

FEDERAL LANDS PROGRAM

Mr. CARR. The fiscal year 1994 budget assumes an increase in activity under the federal lands program of $36 million. Provide the current unobligated balance for the federal lands program and the estimated unobligated balance at the end of the fiscal year. Why has the Department determined the need in the federal lands program to be so great as to warrant a requested increase to the authorized amount in fiscal year 1994?

[The information follows:]

The Intermodal Surface Transportation Assistance Act authorized $445 million in fiscal year 1993. About 30 percent of the funds are currently obligated, but most of the funds will be obligated during the last portion of the fiscal year as construction contracts are awarded. All funds for Indian reservation roads and park roads and parkway are planned be obligated by the end of fiscal year 1993. Up to $35 million in public lands highway funds may be carried over into fiscal year 1994. A significant portion of the unobligated balance is related to forest highway projects, which are being delayed due to environmental clearances and right-of-way acquisition. These projects will be let to contract as soon as the clearances have been obtained.

The Department proposed a $36 million increase in federal lands program authorization. A majority of the proposed increase is for funding park roads and parkway infrastructure improvements. A smaller portion is for public lands highways and Indian reservation roads improvements. The park road system consist of approximately 8,000 miles of roadway and over 1,400 bridges and tunnels. The backlog of infrastructure needs is $1.6 billion. The current authorizations for park roads is $83 million. Condition studies estimate that $120 million annually is needed to just maintain current overall paved park road condition, which over 34 percent are in poor or failed condition. At the current $83 million authorization level, over 50 miles of paved park roads are dropping into a poor or failed condition each year. Our studies indicate that over $150 million annually is needed to stabilize and begin reducing the $1.6 billion backlog. The annual authorization for park roads under the 1982 Surface Transportation Assistance Act (STAA) was $100 million for fiscal years 1984 through 1986. Taking into consideration current costs, the proposed level would approximate the STAA 1984 authorization. The Indian reservation roads and public lands highway authorizations are $191 million and $171 million respectively. The backlog of improvement needs for each category is $4 billion. The proposed increase would meet the infrastructure investment levels identified in the condition studies.

JOB EXPANSION

Mr. Carr. The budget justifications (page 16) state that fully funding the highway portion of ISTEA would "also pump much-needed money into the economy and facilitate job expansion in both the private and public sectors." Precisely how will fully funding ISTEA facilitate job expansion in the public sector? Even if it were true, why is this advantageous?

[The information follows:]

The immediate effects of increased Federal-aid Highway Program expenditures on "public sector" employment levels have not been recently studied but are expected to be small in both absolute terms and relative to private sector job generation. An increase in the demand for engineers, draftsmen, inspectors, and other public employees from a larger Federal-aid highway program are likely to be accommodated by the existing work force in the short-run. In the intermediate term, labor productivity from design and engineering technologies put in place during the 1980's will mitigate growth in Federal, State and local transportation agency employment. Over the long-run, however, sustained economic gains from highway infrastructure improvements will impact both the demand and supply of public sector goods and services in much the same way as they affect the private sector. Improved international competitiveness for American products, increasing manufacturing and service sector productivity, and higher levels of domestic economic activity will challenge all levels of government to maintain and enhance the quantity and quality of transportation services provided while controlling growth in the size of government.

EMERGENCY RELIEF

Mr. Carr. Since emergency relief obligations have been so much greater than the authority requested for them, especially in 1993, why didn't the Department budget for a larger amount for emergency relief.

[The information follows:]

Obligation of emergency relief funds in fiscal year 1993 will be much higher than past years, primarily because of the repairs costs associated with Hurricane Andrew and the heavy winter rains in the West. Because of a large unobligated balance brought forward in the emergency relief account at the beginning of fiscal year 1993, we anticipate that fiscal year 1993's emergency relief obligation needs can be met from this balance and the annual $100 million authorization under 23 U.S.C. 125(a). At this time, we believe the annual $100 million authorization will meet most emergency relief needs in fiscal year 1994, but we are evaluating this situation to see if an increase to the annual authorization level might be appropriate in the future.

In addition, California's Loma Prieta earthquake has been funded from a special authorization of $1 billion by P.L. 101–130. The State could obligate the last of these funds in fiscal year 1993 and need additional funds in fiscal year 1994 for the Cypress Viaduct replacement project. However, the Cypress Viaduct project is being challenged in court and may be delayed, significantly reducing emergency relief funding needs in fiscal year 1994. We are not seeking additional funding for this disaster until the outcome of the court challenge has been decided later this year.

CALCIUM MAGNESIUM ACETATE APPLICATIONS FOR BRIDGES

Mr. Carr. One of the newly eligible types of activity under the bridge replacement and rehabilitation program is calcium magnesium acetate. Explain the promise and limitation of this new application and indicate the projects where it has been funded or is planned to be funded in the near future.

[The information follows:]

Calcium magnesium acetate (CMA) is an alternative deicer to salt and is used in places where salt is not appropriate. CMA is 10 to 15 times less corrosive than salt and is benign to the environment in normal use. Its use on a bridge will prolong the life of the bridge by significantly reducing the rate of steel corrosion and its runoff will not be harmful to the river environment below. One limitation to CMA use results from minor difficulties in application, i.e., handling and distribution from truck to pavement. These are expected to ease, however, as States become more familiar with the material. The cost of CMA itself is a major limitation; however, when corrosion and environmental costs are considered, the cost differential relative to salt is reduced significantly. Lower cost production techniques are being sought.

CMA is currently being used in Michigan on the Zilwaukee Bridge and in Colorado on the Glenwood Canyon Project. Several States and FHWA are jointly funding applications of CMA at a number of locations over the next several winters as part of a SHRP anti-icing implementation project.

IVHS HIGH-RISK PROJECTS

Mr. CARR. ISTEA allows the federal share for certain high-risk, innovative IVHS projects to be 100 percent. To date, what IVHS projects have received 100 percent federal funding? Please explain both the risks involved and the potential applicability of the innovative technology.

[The information follows:]

In fiscal year 1992 and fiscal year 1993, a total of $19.2 million was used to fund IVHS research under the high risk provision of the ISTEA that allows 100 percent federal funding. The IVHS research program is designed to provide federal funding to address issues, such as safety and human factors, that are crucial to successful deployment of IVHS. Federal research funds also support projects that advance new technologies and concepts that can be used as building blocks for the private sector and others to develop future IVHS applications. While many of these projects are funded at 100 percent, we continue to try to identify opportunities for partnerships with the private sector as part of the research program.

In fiscal year 1993, we are also funding $13 million in research on the Automated Highway System (AHS) using the high risk provision of the ISTEA. Multiple contracts will be awarded soon to analyze issues pertaining to AHS applications, technology, design, deployment, operations, and practicality. These contracts are up to one year in length, and will provide direct input into the other phases of the AHS development.

IVHS program needs in areas that require 100% Federal funding have expanded greatly in the past several years. Critical program areas that are using 100% Federal funding include most of the research and development program, the IVHS institutional issues program, the development of the IVHS systems architecture, and most of the AHS work mentioned above. The funding needs in these program areas will continue to exceed the amount available in LGOE, even including the additional funding for IVHS research in the President's Rebuild America Program. We were able to fund these extremely important program areas in fiscal year 1993 using approximately $45 million in other activities and "high-risk" corridors program ISTEA funds that were carried over from fiscal year 1992. Continued earmarking of the entire $113 million provided by the ISTEA each year for the IVHS program will eliminate this funding source for these critical IVHS activities in future years.

ISTEA DEMONSTRATION PROJECTS

Mr. CARR. The fiscal year 1994 budget reflects contract authority of $1,169,381,000 in 1994 for demonstration projects under nine separate sections of ISTEA. Provide a listing of each demonstration project, including the total amount of contract authority made available to date, by year, and the total current unobligated balance.

[The information follows:]

Contract authority available to the demonstration projects is shown in the following tables for each of the nine sections.

The total unobligated balance, as of April 29, 1993, for these nine sections is summarized below:

UNOBLIGATED BALANCE FOR ISTEA DEMONSTRATION PROJECTS

[As of April 29, 1993]

ISTEA section	Contract authority through FY 1993	Unobligated balance
1103—High Cost Bridge	$75,292,800	$69,756,142
1104—Congestion Relief	129,370,560	114,244,077
1105(f)—High Priority NHS Corridors	361,540,640	308,813,280
1105(h)—NHS Corridor Feasibility Studies	16,000,000	8,598,000
1106(a)—Rural Access	243,046,320	172,122,959
1106(b)—Urban Access	146,831,520	133,976,162
1107—Innovative Projects	692,577,386	452,767,184
1108—Priority Intermodal	115,354,800	98,183,783
6023—National Center for Advance Transportation Technology	5,500,000	5,474,691
Total	$1,785,514,026	$1,363,936,278

HIGH COST BRIDGE PROJECTS IN SECTION 1103 OF THE 1991 ISTEA

State	Section Project Number	Project Location/Name	FY 1992 Contract Authority	FY 1993 Contract Authority	Total Contract Authority To Date
Arkansas	4	Arkansas-Mississippi Great River Bridge	64,000	147,200	211,200
California	6	San Francisco: Golden Gate Bridge	472,000	1,085,600	1,557,600
Florida	12	Ft. Lauderdale: 17th Street Causeway Tunnel/ Bridge Replacement	1,088,000	2,502,400	3,590,400
	15	Miami: Dodge Island Bridge	272,000	625,600	897,600
Maine	9	Donald B. Carter Memorial Bridge	2,568,000	5,906,400	8,474,400
Maryland	13	Woodrow Wilson Bridge Rehabilitation	2,368,000	5,446,400	7,814,400
Minnesota	10	Shakopee: Bloomington Ferry Bridge	1,760,000	4,048,000	5,808,000
New Jersey	7	Cape May & Atlantic Cos; Replace critical bridge between Ocean City and Longport	1,472,000	3,385,600	4,857,600
New York	14	McComb Dam Bridge; Manhattan Bridge Rehab; Main Span Rehab of Queensboro Bridge; Williamsburg Br Rehab; Brooklyn Br Rehab	5,920,000	13,616,000	19,536,000
Ohio	8	Maumee River bridge/tunnel study	80,000	184,000	264,000
Oklahoma	1	Delaware City: Replacement bridge on US-59 over Grand Lake	776,000	1,784,800	2,560,800
Oregon	2	Eugene: Construction of Ferry Street Bridge	1,896,000	4,360,800	6,256,800
Pennsylvania	3	Beaver Co: Aliquippa Ambridge Bridge	2,000,000	4,600,000	6,600,000
South Carolinia	11	Charleston: Highway 17 Bridge replacement projects: Cooper River	1,136,000	2,612,800	3,748,800
Virginia	5	Gloucester Point: Widen existing bridge over the York River	944,000	2,171,200	3,115,200
		Totals:	22,816,000	52,476,800	75,292,800

CONGESTION RELIEF PROJECTS IN SECTION 1104 OF THE 1991 ISTEA

State	Section Project Number	Project Location/Name	FY 1992 Contract Authority	FY 1993 Contract Authority	Total Contract Authority To Date
Arizona	23	Tucson: Oracle & Orange Grove Rds interchange	312,000	717,600	1,029,600
California	1	Long Beach:Construction of HOV Lanes on I-710	592,000	1,361,600	1,953,600
	10	San Diego: Construct 1 block of Cut and Cover Tunnel on Rt. 15 in downtown San Diego	400,000	920,000	1,320,000
	11	Los Angeles: To extend I-110 North from I-10 into downtown Los Angeles	808,000	1,858,400	2,666,400
	14	Dixon: To improve 3 grade crossings	144,000	331,200	475,200
	15	Fairfield: To construct 2 park & ride facilities, an information center, transfer hub	616,000	1,416,800	2,032,800
	24	Victorville: Construct interchange 1 mile north of Palmdale Road on I-15	216,000	496,800	712,800
	37	Richmond: I-80 Richmond Parkway Interchange	144,000	331,200	475,200
	40	Sunnyvale: HOV lane improvements on Lawrence Expressway	808,000	1,858,400	2,666,400
District of Columbia	6	Washington: Primary Intermodal System	544,000	1,251,200	1,795,200
Florida	25	Palm Beach: Acquire ROW and construct and widen to 4 lanes 19 mile segment of US 27	440,000	1,012,000	1,452,000
	30	Broward Co.: Hallandale Bridge Project	680,000	1,564,000	2,244,000
Idaho	31	Bannock & Caribou Counties: Any eligible Federal-aid highway projects under title 23.	808,000	1,858,400	2,666,400
Illinois	19	Fox River Valley: Study, plan and construct up to 8 bridges across the Fox River	664,000	1,527,200	2,191,200
Indiana	35	Merrillville: Construction of four lane road and overpass	144,000	331,200	475,200
Kansas	29	Leavenworth: West Leavenworth Trafficway Project	688,000	1,582,400	2,270,400
Kentucky	39	Louisville: Waterfront Development Roadway Improvements	376,000	864,800	1,240,800
Maine	27	Topsham-Brunswick Bypass	840,000	1,932,000	2,772,000
	44	Bath-Woolwich: Improvements to Carlton Bridge	800,000	1,840,000	2,640,000
Maryland	20	Prince George's Co: To rehabilitate the Baltimore-Washington Parkway ** FHWA Federal Lands project **	1,304,000	2,999,200	4,303,200
Massachusett	22	Boston: A bicycle and pedestrain path connecting Arlington, Boston and Cambridge	96,000	220,800	316,800
Michigan	32	Vienna Township: I-75/M57 interchange	712,000	1,637,600	2,349,600
Missouri	5	St. Louis: Relocation of Lindbergh Boulevard and I-70 at St. Louis Lambert Airport	1,184,000	2,723,200	3,907,200
	16	St. Louis: Feasibility study for interchange improvements for I-255 at Rt. 231	8,000	18,400	26,400
Mississippi	28	Rankin Co.: East-Metro Center Access Road	368,000	846,400	1,214,400
North Dakota	12	Lincoln State Park Bypass	88,000	202,400	290,400

CONGESTION RELIEF PROJECTS IN SECTION 1104 OF THE 1991 ISTEA

State	Section Project Number	Project Location/Name	FY 1992 Contract Authority	FY 1993 Contract Authority	Total Contract Authority To Date
New Hampshire	6	Nashua: Nashua River Bridge - Construction of second bridge	96,000	220,800	316,800
Nevada	9	Las Vegas: Reconstruct and upgrade I-15/US-95 Interchange (Spaghetti Bowl)	3,600,000	8,280,000	11,880,000
New York	7	Buffalo: Construction of Peace Bridge truck inspection facility	1,560,000	3,588,000	5,148,000
	13	Babylon: Construct turning lanes, sign upgrades, traffic signal interconnections and road repair and resurfacing	168,000	386,400	554,400
	18	Long Island: To make improvements on the Van Wyck Expressway to improve traffic flow	288,000	662,400	950,400
	36	New York: Construction of Williamsburg to Holland Tunnel Bypass	288,000	662,400	950,400
Ohio	21	Toledo: Study of possible safety and traffic delay improvement benefits in 6 corridors	19,200	44,160	63,360
	41	Dayton: Construction of a bicycle pedestrian facility from Greene County to Dayton	240,000	552,000	792,000
Pennsylvania	2	Philadelphia: Project to Construct Bridge-Pratt Terminal	2,760,000	6,348,000	9,108,000
	28	Improve River Street, Towanda Borough and North Towanda Township to form highway bypass	704,000	1,619,200	2,323,200
Tennessee	3	Davidson,Williamson Cos: Study & construction of Davidson-Williamson Bike Path	80,000	184,000	264,000
	17	Murfreesboro: Conduct a feasibility study of const a bicycle system (P.L. 102-388 sect378)	32,000	73,600	105,600
Virginia	33	Prince William Co.: I-95 HOV lane extension	1,080,000	2,484,000	3,564,000
Virgin Islands	34	St. Thomas: Raphune Hill Bypass	1,472,000	3,385,600	4,857,600
Wisconsin	38	I-794 Bicycle Transportation Projects in Milwaukee and Waukesha Counties	120,000	276,000	396,000
West Virginia	42	Berkeley & Jefferson Counties: Improvements of SR-9 from Martinsburg to VA State line	8,800,000	20,240,000	29,040,000
	43	Construction of Coal Fields Expressway from Beckley to VA State line	4,000,000	9,200,000	13,200,000
		* MULTI STATE PROJECTS *			
Illinois Missouri	4*	East St. Louis: Feasibility study of a bridge between East St. Louis and St. Louis Multi-State (Illinois, Missouri)	112,000	257,600	369,600
		Totals:	39,203,200	90,167,360	129,370,560

HIGH PRIORITY CORRIDOR SEGMENTS ON NATIONAL HIGHWAY SYSTEM IN SECTION 1105(f) OF THE 1991 ISTEA

State	Section Project Number	Project Location/Name	FY 1992 Contract Authority	FY 1993 Contract Authority	Total Contract Authority To Date
Alabama	8	Appalachian Regional Corridor X From SR-25 near Fulton, MS to US-31 in Birmingham, AL	4,736,000	10,892,800	15,628,800
	9	Appalachian Regional Corridor V from MS State Line near Red Bay to TN State Line north of Bridgeport, AL.	2,032,000	4,673,600	6,705,600
Arkansas	4	For construction of Highway 412 from Siloam Springs to Springdale, Arkansas	2,720,000	6,256,000	8,976,000
	5	For construction of Highway 412 from Springdale to Harrison, Arkansas	4,480,000	10,304,000	14,784,000
	14	Construction of US-71 between Fayetteville and Alma, AR as part of North-South Corridor	8,000,000	18,400,000	26,400,000
	29	Highway 412 from Harrison to Mt. Home	1,600,000	3,680,000	5,280,000
Indiana	18	Construct a 4-lane highway from Lafayette to Ft. Wayne following existing SR-25 & US-24	760,000	1,748,000	2,508,000
	26	To improve the Bloomington, IN, to Newberry, IN, segment of the Indianapolis, IN, to Memphis, TN, high priority corridor (This segment is all in IN.) (IN, KY, TN)	1,896,000	4,360,800	6,256,800
Louisiana	21	To improve the North-South Corridor from the Louisiana State Line to Shreveport, Louisiana	2,368,000	5,446,400	7,814,400
Michigan	16	Widen a 60-mile portion of Highway M-59 from MacComb County to I-96 in Howell Co. (4.1M in FY93 to 1108(25) (P.L. 102-388 sect 367))	2,368,000	1,346,400	3,714,400
Missouri	3	Improvement of North-South Corridor along Highway 71 in Southwestern, MO	288,000	662,400	950,400
New York	30	Improvements on Route 219 between Springville to Ellicottville in New York State	760,000	1,748,000	2,508,000
Pennsylvania	1	For upgrading US-220 High Priority Corridor between State College and I-80	4,056,000	9,328,800	13,384,800
	6	To improve US-220 to a 4-lane limited access highway from Bald Eagle northward to US-322	11,840,000	27,232,000	39,072,000
Virginia	28	Construction of Danville Bypass on Route 29 Corridor	1,360,000	3,128,000	4,488,000
Washington	27	US-395 improvements from US Canadian border to Oregon State Line	4,360,000	10,028,000	14,388,000
West Virginia	10	Construction of Shawnee Project from 3-Corner Junction to I-77 as part of I-73/74 Corridor	360,000	828,000	1,188,000
	11	Widening US-52 from Huntington to Williamson, WV, as part of I-73/74 Corridor Project	8,000,000	18,400,000	26,400,000
	12	Replacement of US-52 from Williamson, WV, to I-77 as part of I-73/74 Corridor Project	1,120,000	2,576,000	3,696,000
		* MULTI STATE PROJECTS *			
Alabama Georgia Mississippi Tennessee	2*	Upgrading of the East-West Corridor along Route 72 (Alabama, Georgia, Mississippi, Tennessee)	2,032,000	4,673,600	6,705,600
Nebraska South Dakota	7*	Conduct a feasibility study of an expressway from Rapid City, SD, to Scotts Bluff, NE (Nebraska, South Dakota)	51,200	117,760	168,960

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HIGH PRIORITY CORRIDOR SEGMENTS ON NATIONAL HIGHWAY SYSTEM IN SECTION 1105(f) OF THE 1991 ISTEA

State	Section Project Number	Project Location/Name	FY 1992 Contract Authority	FY 1993 Contract Authority	Total Contract Authority To Date
North Carolina Virginia	13*	For upgrading I-64 & Rt.17 in VA and constructing a new highway from Rocky Mount to Elizabeth City, NC, as part of the Raleigh-Norfolk High Priority Corridor improvements. (N. Carolina, Virginia)	1,424,000	3,275,200	4,699,200
Arkansas Texas	15*	Construction of US-71 from Alma, AK, to the Louisiana State Line AK 91.064% TX 8.936%	5,600,000	12,880,000	18,480,000
Nebraska South Dakota	17*	To improve the Heartland Expressway from Rapid City, SD, to Scotts Bluff, NE (Nebraska, South Dakota)	2,368,000	5,446,400	7,814,400
Indiana Ohio	19*	Conduct feasibility and economic study to widen US-24 from Ft. Wayne, IN to Toledo, OH as part of Lafayette to Toledo Corridor(OH,IN)	25,600	58,880	84,480
Arizona California Nevada	20*	For improvements on I-15 and I-40 in (California, Nevada, and Arizona), including the I-15/US-95 interchange in Nevada	4,736,000	10,892,800	15,628,800
Iowa Minnesota Missouri	22*	For improvements for Avenue of the Saints from St. Paul, MN, to St. Louis, MO (Iowa, Minnesota, Missouri)	9,440,000	21,712,000	31,152,000
16 States	24*	I-66 Transamerica Highway Feasibility Study FHWA HEP-23 Planning and Analysis Division.	80,000	184,000	264,000
Kentucky Tennessee Virginia	25*	To improve Cumberland Gap Tunnel and for various associated improvements as part of the US-25E Corridor. Administrated by FHWA Federal Lands Highway Office.	5,792,000	66,608,000	72,400,000
		TOTALS:	94,652,800	266,887,840	361,540,640

HIGH PRIORITY CORRIDOR FEASIBILITY STUDIES IN SECTION 1105(h) OF THE 1991 ISTEA

State	Project Location/Name	FY 1992 Contract Authority	FY 1993 Contract Authority	Total Contract Authority To Date
Alabama	US 80 from MS St. line to SR-28 west of Demopolis.		$750,000	750,000
	MS St. line to GA St. line. No route - general corridor.		$300,000	300,000
Arkansas	US 71, Texarkana to DeQueen (50 mi)	$500,000		500,000
	US 71; I-30 at Texarkana to Dequeen. Approximately 50 miles.		$500,000	500,000
California	I-15 from Mexico Border to Las Vegas, Nevada.		$1,000,000	1,000,000
	I-40 from I-15/I40 to CA/AZ St. line east of Needles.		$266,832	266,832
Illinois	Between Peoria and Chicago		$1,500,000	1,500,000
louisiana	US 71, AR/LA St. line to Shreveport.		$500,000	500,000
Michigan	M59/US23 interchange, Livingston Co.	$500,000		500,000
	M-59 ROW study, Livingston Co.	$312,000		312,000
	M-59 from M-53 to W. Hayes, Macomb County.		$350,000	350,000
Missouri	Adj. to Ave of the Saints in Mo.	$500,000		500,000
	Part of Avenue of the Saints (61 mi)	$750,000		750,000
Mississippi	US 72, Corinth, MS	$56,000		56,000
	US 72 from TN St. line to proposed MS 302 near Mt. Pleasant		$380,000	380,000
North Carolina	US 52, Winston-Salem	$400,000		400,000
	US 29, Greensboro North	$80,000		80,000
	US 52 from NC 49 in Richfield to I-85 north of Salisbury.		$600,000	600,000
New York	US 219, Springville to Ellicottville	$1,620,000		1,620,000
Oregon	US-395, Pendleton, OR to Pasco, WA	$500,000		500,000
Pennsylvania	US 15, Bloss Mt. to Mansfield	$1,300,000		1,300,000
Texas	US 59, Laredo to Texarkana	$500,000		500,000
Virginia	US 29 from Greensboro, NC. to Washington DC.		$1,500,000	1,500,000
Washington	US-395, Spokane to Canadian Border	$200,000		200,000
West VA.	US 52, I-77 to US-119	$535,168		535,168
Wyoming	Denver, CO. to Scottsbluff, NE. No specific route.		$600,000	600,000
	Totals:	7,753,168	8,246,832	16,000,000

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RURAL ACCESS PROJECTS SECTION 1106(a) OF THE 1991 ISTEA

State	Section Project Number	Project Location/Name	FY 1992 Contract Authority	FY 1993 Contract Authority	Total Contract Authority To Date
Alabama	12	Decatur: Keller Memorial Bridge Replacement	1,016,000	2,336,800	3,352,800
Arkansas	49	Harrison: To improve US 65 from Harrison, Arkansas to Missouri Line	3,040,000	6,992,000	10,032,000
	50	Ft. Smith: Improve Phoenix Avenue in the vicinity of the Ft. Smith Airport	632,000	1,453,600	2,085,600
	51	Bella Vista: To study bypass alternative for US 71 in the vicinity of Bella Vista	240,000	552,000	792,000
	53	DeValls Bluff: Replacement bridge across the White River	200,000	460,000	660,000
	54	Jonesboro: Complete construction of 3 interchanges on the Highway 63 bypass	456,000	1,048,800	1,504,800
Arizona	95	Navajo County: Turquoise Trail Highway (Administered by Bureau of Indians Affairs)	472,000	1,085,600	1,557,600
Colorado	60	Montezuma: Upgrade farm to market road serving Ute (Mountain) Indian Reservation	232,000	533,600	765,600
Florida	28	Chattahochee: Construction of Mosquito Creek Bridge	192,000	441,600	633,600
	29	To upgrade State Rt. 71 from State Rt. 10 to State Rt. 8	232,000	533,600	765,600
	30	To upgrade Florida SR-267 from SR-8 to SR-10	376,000	864,800	1,240,800
	55	Brevard County: Design & Engineering improvements for SR-3 between SR-520 and SR-528	12,800	29,440	42,240
Illinois	9	East St. Louis: Feasibility study for 4-lane Access Road to Jefferson Memorial Park	19,200	44,160	63,360
	10	Environmental Impact Study & Design Study on Highway 67 from Alton to Jacksonville	200,000	460,000	660,000
	11	Venice: Rehabilitation of McKinley Bridge	472,000	1,085,600	1,557,600
	31	East Louis: Tollway feasibility study (East Louis to Carbondale, IL)	25,600	58,880	84,480
	32	Mt. Vernon: Extension of 34th Street from IL Rt. 15 to County Road 10	76,800	176,640	253,440
	33	Reconstruction of Feather Trail Road from Ullin Road Interchange to Rt. 37, Pulaski Co	88,000	202,400	290,400
	34	Resurfacing IL Rt. 1 from Cave-In-Rock to north of Omaha	144,000	331,200	475,200
	35	Williamson County: Upgrading IL Route 13	624,000	1,435,200	2,059,200
	36	Saline County: For improvement to Rt. 13 from Williamson-Saline County line to Harrisburg	320,000	736,000	1,056,000
	65	W. Central: For widening of US 34 between Burlington, Iowa and Monmouth, Ill.	152,000	349,600	501,600
	66	To make improvements including construction of a bridge on US 67 in NW Illinois	192,000	441,600	633,600
	107	For construction of the Alton Bypass from the vicinity of Alton and Godfrey	352,000	809,600	1,161,600
Iowa	106	Gerro Gordo County: Mason City Bypass	1,184,000	2,723,200	3,907,200
Kansas	21	Riverton: Construction of a new highway from Riverton, KS to I-44 in Missouri	1,048,000	2,410,400	3,458,400
	78	Overland Park: I-435 Interchange Project	328,000	754,400	1,082,400
	102	Lawrence: Lawrence circumferential Roadway, Douglas County	264,000	607,200	871,200
	103	Eastern Shawnee: Oakland Expressway	472,000	1,085,600	1,557,600

RURAL ACCESS PROJECTS SECTION 1106(a) OF THE 1991 ISTEA

State	Section Project Number	Project Location/Name	FY 1992 Contract Authority	FY 1993 Contract Authority	Total Contract Authority To Date
Kentucky	89	Pike County: US 119 Upgrading	608,000	1,398,400	2,006,400
	98	South Central Kentucky: Highway 92 Relocation Study	8,000	18,400	26,400
	99	Jessamine County: US 27 Improvements	736,000	1,692,800	2,428,800
Louisiana	17	Lake Charles: Construction of roads and bridge to Rose Bluff Industrial Area	328,000	754,400	1,082,400
	18	Improvements and extension of Ambassador Caffery Parkway	1,192,000	2,741,600	3,933,600
	74	Bossier City: To study grade seperations along 10 mile of KC Railroad along US 71	12,800	29,440	42,240
	113	Louise: Louise Bridge Replacement	760,000	1,748,000	2,508,000
Michigan	43	US 131, St. Joseph County	40,000	92,000	132,000
	44	Berrien Co: US-31 relocation	1,392,000	3,201,600	4,593,600
	45	Holland: US 31 upgrade, Holland, Ottawa Co.	104,000	239,200	343,200
	58	Farmington Hills: To widen 12-mile road corridor in the vicinity of Farmington Hills	200,000	460,000	660,000
	90	Jackson County: US 127 Upgrading	64,000	147,200	211,200
Minnesota	22	Aurora-Hoyt Lakes/Silver, Bay: Construction and reconstruction of Forest Highway 11 connecting Aurora-Hoyt Lakes and Silver Bay	760,000	1,748,000	2,508,000
	23	Richfield: 77th St Reconstruction Project	928,000	2,134,400	3,062,400
	88	Mankato: Mankato South Rt. Improvements,	800,000	1,840,000	2,640,000
	91	Eden Prairie/Cologne: US Trunk highway 212 improvement project, Eden Prairie/Cologne	696,000	1,600,800	2,296,800
Missouri	15	New Madrid, Stoddard, Carter and Butler Counties: Highway 60 Improvements	1,736,000	3,992,800	5,728,800
	16	Southern: Improvement of Rt 65 through Greene Christian and Taney Counties	1,128,000	2,594,400	3,722,400
	101	Blue Springs: Adams Dairy Parkway Project	120,000	276,000	396,000
	104	Highway 63 improvements, Columbia, Missouri/ Iowa border	472,000	1,085,600	1,557,600
	112	Howell County: Improve Highway 63	288,000	662,400	950,400
Mississippi	24	Franklin/Lincoln Counties: Improvements on Highway 84	760,000	1,748,000	2,508,000
	25	Upgrading of US-98 from County line of Pike and Walthall Counties to Lamar County, MS	32,000	73,600	105,600
	26	Natchez: Upgrading Highway 61 from Natchez, MS to Louisiana State Line	28,000	64,400	92,400
	27	Upgrading Highway 84 from Brookhaven, MS to US 49 in Collins, MS	168,000	386,400	554,400
North Carolina	2	Boger City: Construction of 4-lane divided hwy along hwy 321 from Boger City to NC-127S.	1,136,000	2,612,800	3,748,800
	39	Asheville: US 19 - 23 improvement project	888,000	2,042,400	2,930,400
	46	I-85 interchange improvement at State Route 1103 Granville County	136,000	312,800	448,800
	72	To reimburse the State of North Carolina for construction & repair of the Bonner Bridge	240,000	552,000	792,000
	73	Construct interstate link between I-95 and I-40 in vicinity of Wilson and Goldsboro	712,000	1,637,600	2,349,600
	100	Cumberland: U-2519/X-2 Highways	1,272,000	2,925,600	4,197,600

RURAL ACCESS PROJECTS SECTION 1106(a) OF THE 1991 ISTEA

State	Section Project Number	Project Location/Name	FY 1992 Contract Authority	FY 1993 Contract Authority	Total Contract Authority To Date
New Hampshire	37	Winchester: Replacement of Winchester Bridge	64,000	147,200	211,200
	38	Hanover: Ledyard Bridge Reconstruction	624,000	1,435,200	2,059,200
	47	Manchester: Manchester Airport Road Improvements	320,000	736,000	1,056,000
	48	Wetlands mitigation package for SR-101/51	800,000	1,840,000	2,640,000
New Mexico	93	Clayton: Raton-Clayton Road	744,000	1,711,200	2,455,200
	94	Jicarilla Apache State Road * FHWA Federal Lands Project *	120,000	276,000	396,000
New York	3	Utica: Improvement of the Utica North/South Arterial	792,000	1,821,600	2,613,600
	4	Oneida County: Upgrade a highway to 4-lanes	640,000	1,472,000	2,112,000
	70	Wayne County: To improve Rt. 104 from Furnace Road to Pound Road	512,000	1,177,600	1,689,600
	71	Chautauqua Co: 2 additional expressway lanes from Chautauqua Lake Bridge to PA Border	1,360,000	3,128,000	4,488,000
Ohio	1	Cadiz: Improvements of Short Creek Highway from Cadiz, Ohio to Rayland, Ohio	200,000	460,000	660,000
	19	Clark, Champaign and Logan Counties: US 68 Bypass	1,264,000	2,907,200	4,171,200
	40	Niles: Belmont Street Bridge Replacement	96,000	220,800	316,800
	41	Struthers: Bridge Street Bridge replacement	96,000	220,800	316,800
	42	Niles: South Main Street Bridge replacement	200,000	460,000	660,000
	64	Mentor: For construction of an interchange on State Rt.615 at I-90	376,000	864,800	1,240,800
	86	Medina: Route 18 Bypass Study	32,000	73,600	105,600
	87	Norwalk: US 250 Bypass Study	32,000	73,600	105,600
	92	East Canton/Minerva: Route 30 Extension	424,000	975,200	1,399,200
Oklahoma	5	Southern: Widening of US 70	19,200	44,160	63,360
	6	Southern: Construction of a bridge and approaches at Pennington Creek, OK	80,000	184,000	264,000
Pennsylvania	7	Johnsonburg: Relocation of a 2-lane highway from Center Street to PA Rt. 255 along US 219, Johnsonburg Bypass	1,120,000	2,576,000	3,696,000
	8	Pennsylvania: Construction of truck driving lanes and safety improvements on US 219 between I-80 and the NY State Line	2,080,000	4,784,000	6,864,000
	20	Aliquippa: For various 3-R projects	1,024,000	2,355,200	3,379,200
	52	Bedford Springs: To const an access Rd along Old US 220 to project and to constr other facilities in site. (P.L.102-506 sect 602) & projects in Bedford; Fulton & Huntington Co.	1,576,000	3,624,800	5,200,800
	67	Monongahela Valley: For construction of southernmost extension of Monongahela Xway	1,120,000	2,576,000	3,696,000
	68	Dauphin County: Design, right-of-way and reconstruct 5.1 miles of 4-lane divided highway from Dauphin Borough to Speeceville	960,000	2,208,000	3,168,000
	75	Widen 14 mile segment of US 15 from 2 to 4 lanes	1,104,000	2,539,200	3,643,200

RURAL ACCESS PROJECTS SECTION 1106(a) OF THE 1991 ISTEA

State	Section Project Number	Project Location/Name	FY 1992 Contract Authority	FY 1993 Contract Authority	Total Contract Authority To Date
	79	Washington County: Pennsylvania Industrial Park Access	504,000	1,159,200	1,663,200
	80	Southern Fayette County: Chadville Improvement Project	192,000	441,600	633,600
	81	US Rt. 219 Meyersdale Bypass	3,840,000	8,832,000	12,672,000
	82	US Rt. 22 Improvements: Monroeville to Ebensburg	2,424,000	5,575,200	7,999,200
	83	Blairsville: Laurel Valley Expressway	400,000	920,000	1,320,000
	96	Lehigh County: US 222 Relocation	120,000	276,000	396,000
	97	Northhampton County: PA 33 Extension	1,344,000	3,091,200	4,435,200
	106	Berks County: Warren St. Extension/US 222 Reconstruction	528,000	1,214,400	1,742,400
	115	Latrobe: Ligonier Street Reconstruction	64,000	147,200	211,200
	116	Carroltown/DuBois: US 219 Improvements	320,000	736,000	1,056,000
	117	Robinson Township: Design work in Town Center	400,000	920,000	1,320,000
South Carolina	85	Greenville's Co: Southern Connector Highway	288,000	662,400	950,400
Tennessee	13	Lenoir City: Feasibility Study on Ft Loudon Dam Bridge on US-231	40,000	92,000	132,000
	14	Blount City: Improvement of US Highway 411 in Monroe and Blount Counties	1,256,000	2,888,800	4,144,800
	69	Rutherford County: Replace existing Br. over west fork of the Stone's River.(P.L. 102-388 sect 379) & related facilities, lands, ...	64,000	147,200	211,200
Texas	57	Beaumont: Widen Highway FM-364 from a 2-Lane to a 4-lane road	832,000	1,913,600	2,745,600
	59	Laredo: Expand capacity of 2-Lane highway, construct interchanges and connector highway	592,000	1,361,600	1,953,600
	61	Lubbock: Feasibility & route studies, PE, design for highway from Lubbock to I-20	232,000	533,600	765,600
	62	Rosenberg: To purchase right-of-way for Highway 36 bypass West of Rosenberg	72,000	165,600	237,600
	63	Angleton: For various activities associated with relocation of Highway 288	72,000	165,600	237,600
	64	Brownsville: Brownsville Railroad Relocation Project	536,000	1,232,800	1,768,800
	110	Port Lavaca to Cuero: Construct upgraded, improved four-lane divided highway.	3,512,000	8,077,600	11,589,600
	111	Parker Co: Upgrade existing State Highway 199 to four-lane divided highway	2,680,000	6,164,000	8,844,000
	114	Travis Co.: Highway 620 Bridge Improvement	912,000	2,097,600	3,009,600
Virginia	109	Prince Edward Co.: widen 2-miles of US 460 to 4 lanes beginning 1 mile S of Farmville	352,000	809,600	1,161,600
Washington	78	Columbia River Gorge: State Route 14 Improvement Projects	688,000	1,582,400	2,270,400
West Virginia	77	Fairmont: Riverside Expressway Improvements	424,000	975,200	1,399,200
	105	Mason County/Kanawha: Highway Improvements	1,560,000	3,588,000	5,148,000
	118	Chelyan Bridge Replacement	680,000	1,564,000	2,244,000

RURAL ACCESS PROJECTS SECTION 1106(a) OF THE 1991 ISTEA

State	Section Project Number	Project Location/Name	FY 1992 Contract Authority	FY 1993 Contract Authority	Total Contract Authority To Date
		* MULTI STATE PROJECTS *			
Louisiana Mississippi	58*	Const of a new road from an area in the area of I-59 to Alexandria (P.L. 102-388 sect 405)	136,000	312,800	448,800
TOTAL		Totals:	73,650,400	169,395,920	243,046,320

URBAN ACCESS AND URBAN MOBILITY PROJECTS IN SECTION 1106(b) OF THE ISTEA

State	Section Project Number	Project Location/Name	FY 1992 Contract Authority	FY 1993 Contract Authority	Total Contract Authority To Date
Arizona	74	Tucson: Veterans Memorial Interchange/Palo Verde Bridge Replacement	192,000	441,600	633,600
California	1	Santa Ana: Bristol Street Project	328,000	754,400	1,082,400
	7	San Jose: Improvement of interchange at Highway 85/Highway 17	2,800,000	6,440,000	9,240,000
	8	Gilroy: Safety improvements on Highway 152	472,000	1,085,600	1,557,600
	36	Compton: For a grade separation project at W. Alameda St. and the Mealy St. Corridor	528,000	1,214,400	1,742,400
	41	San Diego: To conduct environmental study on feasibility of constructing 4-lane highway from SR-805 to Mexico border near Otay Mesa	80,000	184,000	264,000
	46	Commerce: To relocate a portion of Atlantic Blvd. in the vicinity of Telegraph Road as part of a grade separation project	376,000	864,800	1,240,800
	66	Los Angeles Co: Grade Separation projects (3)	568,000	1,306,400	1,874,400
	71	Anaheim: HOV facilities for I-5 in vicinity of Anaheim Regional Trans. Intermodal Complex	1,184,000	2,723,200	3,907,200
Connecticut	43	Hartford: To rehabilitate State Rt. 99	400,000	920,000	1,320,000
	44	Hartford: For improved access to Connecticut River as in I-91 Mitigation Project	184,000	423,200	607,200
District of Columbia	10	Washington: Construction of missing segments of Eastern and Southern Avenues	544,000	1,251,200	1,795,200
	70	Design & construction of noise barriers along Southeast/Southwest and Anacostia Freeway	376,000	864,800	1,240,800
Florida	42	Sarasota: To construct a bridge interchange at US 301 and University Parkway	192,000	441,600	633,600
Georgia	4	Atlanta: Improvement of Martin Luther King Drive	64,000	147,200	211,200
	72	Atlanta: I-20 Interchange at Lithonia Industrial Boulevard	896,000	2,060,800	2,956,800
Illinois	5	Chicago: Handicapped Accessibility Projects on various Chicago Streets	192,000	441,600	633,600
	6	Chicago: Feasibility study for a road between existing Lake Shore Drive and Indiana Road	12,800	29,440	42,240
	13	Joliet: Rehabilitation of Houbolt Rd and construction of I-80/Houbolt Rd interchange	80,000	184,000	264,000
	14	Chicago: WPA Street Improvements	296,000	680,800	976,800
	15	Burnham: to improve Dolton Avenue between Torrence Avenue and Indiana State Line	152,000	349,600	501,600
	16	Calumet Park: Ashland Avenue Bridge Replacement	168,000	386,400	554,400
	17	Harvey: Illinois 1 Interchange improvement from US-6 to I-80	200,000	460,000	660,000
	18	Markham: Sibley Boulevard traffic flow improvement from Dixie Highway	280,000	644,000	924,000
	19	Chicago: Illinois 1 intersection improvement (Harvey: intersection at 155th Street)	112,000	257,600	369,600
	33	Springfield: To extend 11th Street from Stevenson Drive to Toronto Road	664,000	1,527,200	2,191,200
	52	Chicago: Right-of-way preservation projects (Eisenhower & Stevenson Connector)	384,000	883,200	1,267,200
	53	Chicago: Museum of Science & Industry; various intermodal facilities	2,800,000	6,440,000	9,240,000

URBAN ACCESS AND URBAN MOBILITY PROJECTS IN SECTION 1108(b) OF THE ISTEA

State	Section Project Number	Project Location/Name	FY 1992 Contract Authority	FY 1993 Contract Authority	Total Contract Authority To Date
	54	Chicago: Skyway Bridge	1,136,000	2,612,800	3,748,800
	55	Chicago: Cermak Road Bridge reconstruction	736,000	1,692,800	2,428,800
	56	Chicago: Roosevelt Road and Bridge improvements	944,000	2,171,200	3,115,200
	56A	Chicago: State Street Mall improvements	1,136,000	2,612,800	3,748,800
	57	Chicago: Cicero Avenue improvements	88,000	202,400	290,400
	58	Chicago: 183rd Street Reconstruction	120,000	276,000	396,000
	59	Chicago: 111th Street Reconstruction	200,000	460,000	660,000
	60	Chicago: 111th Street Upgrade; Cicero Avenue to Pulaski Road	200,000	460,000	660,000
	61	Chicago: 111th Street Widening; Central Avenue to Cicero Avenue	376,000	864,800	1,240,800
Indiana	22	Acquisition of West Lake Corridor Right-of-way between Munster and Hammond	80,000	184,000	264,000
	23	Portage: Widen Willow Creek Road to 4 lanes	120,000	276,000	396,000
	24	Hobart, Lake Station & New Chicago: various improvements to Ridge Road	344,000	791,200	1,135,200
	62	Muncie: State Rd. 67 Widening	800,000	1,840,000	2,640,000
	63	Columbus Entranceway project	264,000	607,200	871,200
Massachusett	30	Lawrence: Study, design, and construct new road service; road, ramps & widen I-495	376,000	864,800	1,240,800
Maryland	31	Baltimore: To improve various roads as part of project "Project Vision"	400,000	920,000	1,320,000
	66	Baltimore Co.: Improvement of US 1	944,000	2,171,200	3,115,200
Nebraska	39	Omaha: For improvements to US 6 from 86th St to 118th and intersection with I-680	416,000	956,800	1,372,800
New Jersey	25	Passaic Co: Complete construction of Rt-21	7,904,000	18,179,200	26,083,200
	26	Northeastern NJ: To raise 14 bridges over Molly Ann's Brook	760,000	1,748,000	2,508,000
	28	Newark: To construct ramps to provide access to I-78	576,000	1,324,800	1,900,800
	29	Newark: To construct a parking facility as part of a multi-modal transportation facility near United Hospitals Medical Center	392,000	901,600	1,293,600
	34	Middlesex: Route 1 widening in Middlesex Co. from Raritan River to Rahway River	592,000	1,361,600	1,953,600
	35	Perth Amboy & Woodbridge Township: Study whether additional river crossings required	200,000	480,000	680,000
	37	Parsippany, Troy Hills: Construct interchange and ramp improvements on I-280	248,000	570,400	818,400
	64	Paramus: Rt. 17/4 Interchange Project	456,000	1,048,800	1,504,800
	65	Hackensack: Hackensack Avenue/Kinderkamack Road Bridges over Route 4	456,000	1,048,800	1,504,800
	69	Camden: Renovation of South Jersey Port Corporation Beckett Street Terminal	664,000	1,527,200	2,191,200

URBAN ACCESS AND URBAN MOBILITY PROJECTS IN SECTION 1106(b) OF THE ISTEA.

State	Section Project Number	Project Location/Name	FY 1992 Contract Authority	FY 1993 Contract Authority	Total Contract Authority To Date
New York	9	New York: Improvements on Miller Highway	1,248,000	2,870,400	4,118,400
	11	Buffalo: Scajaquada Expressway Classification Study	19,200	44,160	63,360
	12	Buffalo: NY State Thruway relocation study	19,200	44,160	63,360
	36	Queens: To rehabilitate 39th Street Bridge over rail tracks at the Sunnyside Rail Yard	832,000	1,913,600	2,745,600
	40	Suffolk Co/Long Island: Construct various roadway improvements on 7.1 miles of SR-112	272,000	625,600	897,600
	46	Long Island: Southern State Parkway Improvement	368,000	846,400	1,214,400
	49	Schenectady: Exit 26 Bridge Project	456,000	1,048,800	1,504,800
	67	Staten Island: Preservation of Rail Corridor - North Shore Rail Line	856,000	1,968,800	2,824,800
	73	Buffalo: Southtowns Connector	680,000	1,564,000	2,244,000
Ohio	20	Youngstown: Center Street Bridge replacement, including Poland Avenue - Shirley Road connector and ramps at I-680	976,000	2,244,800	3,220,800
Pennsylvania	3	Beaver & Butler Cos: Construction of Crow's Run Expressway from I-79 to PA Rt. 60	280,000	644,000	924,000
	27	Chambersburg: To improve the Wayne Avenue - I-81 interchange and to widen Wayne Avenue to 5 lanes from I-81 to Coldbrook Avenue	147,200	338,560	485,760
	47	Scranton: Realign 3,000 feet of N. Scranton Expressway to connect with Mulberry St.	576,000	1,324,800	1,900,800
Rhode Island	75	Providence: Memorial Boulevard Pedestrian/ Traffic Improvements	400,000	920,000	1,320,000
Tennessee	45	Chattanooga: Construct an urban diamond interchange and a connector road	248,000	570,400	818,400
Utah	51	Expansion of State Road 5600 West	264,000	607,200	871,200
Virginia	50	Northern Virginia: Upgrade I-495 interchanges including Virginia Mixing Bowl Improvements	600,000	1,380,000	1,980,000
Washington	32	Bellevue: Conduct Phase I design study for I-405 interchange at NE 8th Street	400,000	920,000	1,320,000
	76	Renton: Houser Way Relocation Expansion	240,000	552,000	792,000
		* MULTI STATE PROJECTS *			
Illinois Missouri	2*	Metro East/St. Louis, Missouri Bridge Feasibility Study. (Illinois & Missouri)	80,000	184,000	264,000
Indiana Illinois	21*	Lake Porter & LaPort Cos.: Study linkage roads to connect Lake Shore Drive & surrounding facilities. (Illinois & Indiana)	80,000	184,000	264,000
TOTAL			44,494,400	102,337,120	146,831,520

INNOVATIVE PROJECTS IN SECTION 1107(b) OF THE ISTEA

State	Section Project Number	Project Location/Name	FY 1992 Contract Authority	FY 1993 Contract Authority	Total Contract Authority To Date
Alabama	30	Mobile: Reconstruction of West Tunnel Plaza interchange on I-10	1,200,000	2,760,000	3,960,000
	35	Montgomery: Construct 4-lane bypass to connect I-65 and I-85	944,000	2,171,200	3,115,200
	80	Tuscaloosa Co: Black Warrier River Bridge	512,000	1,177,600	1,689,600
	124	Patton Island Bridge Project	376,000	864,800	1,240,800
	192	Improvements to Anniston Eastern Bypass near US-431, and between SH-21 and I-20	880,000	2,024,000	2,904,000
Arkansas	100	North Belt Freeway project (N. Little Rock)	712,000	1,637,600	2,349,600
California	12	Oceanside: Construction of A, B, and C segments of SR 76	1,152,000	2,649,600	3,801,600
	13	Carlsbad: Improvements at interchange at Palomar Airport Rd. and I-5	272,000	625,600	897,600
	37	Los Angeles: Prel. work to enhance capacity of I-5 from downtown to SR 91 interchange	536,000	1,232,800	1,768,800
	61	Mojave: Reconstruct bridge to Caltrans height standards	144,000	331,200	475,200
	71	San Benito: Rt. 156 Hollister Bypass	72,000	165,600	237,600
	72	Monterey: Rt. 101, Prunedale (Bypass)	336,000	772,800	1,108,800
	82	Union City: I-880/Alvarado-Niles Road interchange	760,000	1,748,000	2,508,000
	86	Bakersfield: Route 58 Improvements	376,000	864,800	1,240,800
	87	Santa Fe Springs: Norwalk Boulevard grade separation	376,000	864,800	1,240,800
	118	West Sacramento: Industrial Bloulevard Bridge over Sacramento River Barge Canal	664,000	1,527,200	2,191,200
Connecticut	196	Rehabilitate or replace Gold Star bridge over Thames River between New London & Gorton, Bridge over Yellow Mill Channel in Bridgeport, Tomlinson Bridge in New Haven	4,960,000	11,408,000	16,368,000
District of Columbia	98	Hybrid Fuel Cell	288,000	662,400	950,400
	201	Advanced composite bridge deck demo at Catholic University	16,000	36,800	52,800
Florida	28	Brevard Co: Design, acquire ROW & construct a widened bridge on SR 3 over Barge Canal	552,000	1,269,600	1,821,600
	43	Hillsborough: Widen and improve safety of I-4 from Tampa to Hillsborough Co. line	1,960,000	4,508,000	6,468,000
	196	Orlando: Land & right-of-way acquisition & guideway construction for MAGLEV project	7,800,000	17,940,000	25,740,000
Georgia	10	Atlanta: Transportation improvements for 1996 Olympics and IVHS traffic mangement system	4,648,000	10,690,400	15,338,400
	202	Georgia: Any highway improvement projects elligible for funding under title 23	2,160,000	4,968,000	7,128,000
Hawaii	203	Hawaii: Any highway improvement projects elligible for funding under title 23	480,000	1,104,000	1,584,000

INNOVATIVE PROJECTS IN SECTION 1107(b) OF THE ISTEA

State	Section Project Number	Project Location/Name	FY 1992 Contract Authority	FY 1993 Contract Authority	Total Contract Authority To Date
Idaho	60	Lewiston: Improve Bryden Canyon Road	424,000	975,200	1,399,200
	187	Plummer: Reconstruct 3 segments of SH-5, totaling about 5.3 miles in length	288,000	662,400	950,400
	188	Lemhi County: Reconstruct 8.3 miles of US-93 at the Idaho/Montana border * FHWA Federal Lands Project *	2,048,000	4,710,400	6,758,400
	189	St. Maries: Rehabilitate existing 14.2 miles of pavement on FH 50 * FHWA Federal Lands Project *	272,000	625,600	897,600
	190	Lewiston: Construct 2.4 miles of new road along FAU 7344 in Bryden Canyon	312,000	717,600	1,029,600
	191	Bear Lake County: Reconstruct 13 miles of US-89 between Montpelier and Geneva	1,480,000	3,404,000	4,884,000
Illinois	11	Chicago: Computerized infrastructure management systems	344,000	791,200	1,135,200
	15	Mokena: Construction of Wolf Road between Laport Road and US 30	112,000	257,600	369,600
	16	Village of Frankfort: Roadway Improvement Projects	104,000	239,200	343,200
	17	Plainfield: Replacement of E J & E Viaduct over IL Route 59 and Dupage River Tributary	80,000	184,000	264,000
	18	Romeoville: Replacement of 135th St. Bridge	472,000	1,085,600	1,557,600
	32	Galina: Conduct environmental, PE & design studies to widen 47 miles of US 20 to 4-lanes	160,000	368,000	528,000
	36	Mendon: Construct 14.8 miles of Highway 336 from Rt. 61 near Mendon to West Point Road	400,000	920,000	1,320,000
	66	Jacksonville: US 67 Jacksonville Bypass	1,264,000	2,907,200	4,171,200
	95	DuQuoin Highway Bridge	208,000	478,400	686,400
	96	Tamarack Street extension	48,000	110,400	158,400
	102	Replace 5.3 miles of Illinois 17 from 0.2 mi west of Spiear Road to Illinois 1	144,000	331,200	475,200
	103	Leroy: US 150 replacement, north of Hemlock St. to south of Gilmore St.	80,000	184,000	264,000
	104	Ford Co: Replace 8.0 miles of US 24 from 1.1 mi. east of Forrest to Ford Co. line	144,000	331,200	475,200
	105	Watseka: US 24 replacement from Crescent City to Illinois 1	200,000	460,000	660,000
	106	Emington: Emington Spur Road replacement from Illinois 47 to Emington	52,000	119,600	171,600
	107	New Lenox Road improvement	200,000	460,000	660,000
	108	Shorewood Roadway improvements	104,000	239,200	343,200
	109	Chicago: Painting of various moveable bridges	224,000	515,200	739,200
	111	Chicago: 3R work on historic 28 mile Boulevard	432,000	993,600	1,425,600
	119	Calumet City: Reconstruction of 156th St. & 156th Place from Buckham Ave. to State line	104,000	239,200	343,200
	120	Frankfort Township: Improvement of streets	80,000	184,000	264,000
	121	Matteson: I-57 bridge improvements	288,000	662,400	950,400

INNOVATIVE PROJECTS IN SECTION 1107(b) OF THE ISTEA

State	Section Project Number	Project Location/Name	FY 1992 Contract Authority	FY 1993 Contract Authority	Total Contract Authority To Date
	122	Road improvements - US 150/IL 1 from Belgium to south of Westville	304,000	699,200	1,003,200
	123	Road improvements - US 45 from Savoy to Tolono	448,000	1,030,400	1,478,400
	137	Improvements on the Kennedy Expressway Note 1/3 of money in 92, 93 and 94.	58,333,333	58,333,333	116,666,666
Indiana	64	Contruct extension of I-69 to link Evansville and Indianapolis	304,000	699,200	1,003,200
	97	East Chicago Marina Access Road	680,000	1,564,000	2,244,000
Iowa	62	Fremont Co: Construction of IA Highway 2 from Sidney to I-29	696,000	1,600,800	2,296,800
	63	Council Bluffs: Variety of improvements to Valley View Corridor	80,000	184,000	264,000
	69	Highway. 63 improvements from Waterloo to New Hampton	1,208,000	2,778,400	3,986,400
Kansas	44	Wichita: Construct 6-lane access control highway & interchange at Oliver St.	528,000	1,214,400	1,742,400
	154	Widen US-81 Belleville to Concordia	560,000	1,288,000	1,848,000
	155	Hutchinson: Construction of Huchinson Bypass between US-50 and K-96	1,952,000	4,489,600	6,441,600
Maine	68	Portland: Portland-S. Portland Bridge	10,760,000	24,748,000	35,508,000
Maryland	2	Harford Co: Construction of Durham Road Bridge # 75	40,000	92,000	132,000
	3	Harford Co: Construction of replacement bridge at Furnace Road Bridge # 74	48,000	110,400	158,400
	4	Harford Co: Construction of replacement bridge at South Hampton Road Bridge # 47	80,000	184,000	264,000
	5	Harford Co: Construction of replacement bridge at Wheel Road Bridge # 9	80,000	184,000	264,000
	6	Hatford Co: Construction of replacement bridge at Watervale Bridge # 63	88,000	202,400	290,400
	7	Baltimore Co: Replacement of Papermill Road Bridge # 123 in Cockeysville area	424,000	975,200	1,399,200
	117	Baltimore Co: I-695 improvements	1,912,000	4,397,600	6,309,600
Michigan	33	Areneck Co: Improve 12 miles of US 23 between Rt. 13 and Rt. 65	376,000	864,800	1,240,800
	47	Grand Rapids: construct bypass connecting I-96 and I-196	552,000	1,269,600	1,821,600
	53	Genesse: Widen and improve pavement in Mundy Township from Baldwin Rd. to Cook Rd.	12,800	29,440	42,240
	54	Flint: Design & construct improved and widened 5-lane road	40,000	92,000	132,000
	55	Flint: Design & construct 1.02 miles of 5-lane roadway	72,000	165,600	237,600
	56	Flint: ROW acquisition, relocation, & construction of Bristol Road	248,000	570,400	818,400
	89	Traverse City: Traverse City Bypass	360,000	828,000	1,188,000
	112	Cadillac: Improvements to US 131 from Cadillac to Manton to Traverse City	336,000	772,800	1,108,800

INNOVATIVE PROJECTS IN SECTION 1107(b) OF THE ISTEA

State	Section Project Number	Project Location/Name	FY 1992 Contract Authority	FY 1993 Contract Authority	Total Contract Authority To Date
Minnesota	81	Brooklyn Park: Highway 610 Crosstown Project	2,880,000	6,624,000	9,504,000
	126	Completion of Cross-Range Expressway (Trunk Highway 169)	1,040,000	2,392,000	3,432,000
	127	Hinckley: Safety & capacity improvements to Trunk Highway 48 & relocate County Road 134	160,000	368,000	528,000
	128	Trunk Highway 53 from Twig to Trunk Highway 37	760,000	1,748,000	2,508,000
	129	Trunk Highway 169 from Grand Rapids to High City	720,000	1,656,000	2,376,000
	130	Trunk Highway 61 from Schroeder to Grand Marais	1,440,000	3,312,000	4,752,000
	133	Trunk Highway 37 and Hughes Road	40,000	92,000	132,000
	158	Hennepin County: Bloomington Ferry Bridge & C.S.A.H. 18 replacement project	1,440,000	3,312,000	4,752,000
	159	Nicollet Co: C.S.A.H. 41 for roadway stabilization and rockfall control - North Mankato	240,000	552,000	792,000
	160	St. Cloud: Trunk Highway 15 bridge over Mississippi River & interchange with T.H. 10	259,200	596,160	855,360
	161	MN Safety Initiative Program - pavement marking and elastomer modified asphalt	240,000	552,000	792,000
Missouri	40	Jefferson Co: Widen I-55 between Rt. M and Rt. 67	408,000	938,400	1,346,400
	41	Jefferson Co: Upgrade 7.9 miles of Missouri Highway 21	408,000	938,400	1,346,400
	42	St. Louis: Construct a 4-lane outer beltway connecting I-55 and I-44	608,000	1,398,400	2,006,400
Mississippi	86	Pascagoula: US 90 improvements including 6-lane bridge and approaches	344,000	791,200	1,135,200
Montana	194	Billings: Construction of Shilo I-90 interchange	880,000	2,024,000	2,904,000
	195	Missoula: Construction of Missoula Airport I-90 interchange	560,000	1,288,000	1,848,000
Nevada	90	Elko Co: Lamoille Highway widening	192,000	441,600	633,600
	91	Reno: US 395 Extension	1,184,000	2,723,200	3,907,200
	92	Carson City: Carson City Bypass	608,000	1,398,400	2,006,400
New Hampshire	152	Study of corridor protection for NH Route 16	160,000	368,000	528,000
	153	North Conway: Provide congestion relief on US-302 and NH Route 16	504,000	1,159,200	1,663,200
New Jersey	73	Newark: Rt. 21 Viaduct	1,184,000	2,723,200	3,907,200
	74	Newark: Widening of Rt. 21	1,112,000	2,557,600	3,669,600
	125	Bourough of Paulsboro: Construction of a new bridge to improve safety	216,000	496,800	712,800

INNOVATIVE PROJECTS IN SECTION 1107(b) OF THE ISTEA

State	Section Project Number	Project Location/Name	FY 1992 Contract Authority	FY 1993 Contract Authority	Total Contract Authority To Date
New York	48	Suffolk Co: Selective black topping through high noise road segments	160,000	368,000	528,000
	49	Suffolk Co: Evaluate composting and recycling use on Federal-aid highways	32,000	73,600	105,600
	59	Amherst & Erie Cos.: Widen 2 miles of Rt. 263 and rehabilitate 4 miles of Rt. 78	608,000	1,398,400	2,006,400
	162	New York: Hell Gate Viaduct - upgrade, repair and paint. (Administered by FRA)	4,400,000	10,120,000	14,520,000
	163	New York: Reconstruction of ferry landing within Battery Park	160,000	368,000	528,000
	164	New York: Foley Square Plaza transportation improvements and construction activities	420,000	966,000	1,386,000
	165	New York: Reconstruct & improve sections of Franklin Delano Roosevelt Drive	800,000	1,840,000	2,640,000
	166	Corning Bypass improvements	880,000	2,024,000	2,904,000
	198	Corning Bypass; excess fund may be used to widen Route 17 near PA border	192,000	441,600	633,600
	200	Binghamton: Feasibility studing on rehabilitation of South Washington Street Bridge	40,000	92,000	132,000
North Carolina	75	Chatham & Wake Cos: US 64 Widening	424,000	975,200	1,399,200
	113	Durham Co.: Accelerated construction of 4-lane freeway on Rt. 147	3,064,000	7,047,200	10,111,200
North Dakota	38	Design state-wide off-system bridge management system and began repairs	712,000	1,637,600	2,349,600
	167	Nelson County: Grading & surfacing from US 2 to ND Hwy 15 @ McVille & on FAS 3220 from ND 1 to Co line. (See P.L. 102-388 sect 401)	680,000	1,564,000	2,244,000
	168	Stutsman County: Surfacing of I-94 N & E at Spiritwood then N to ND Hwy 9, FAS 3718 from ND 20 E to FAS 4745 & FAS 4712 from ND 20 to ND 9 (P.L. 102-388 sect 401 changed project)	320,000	736,000	1,056,000
	169	Steele & Griggs Cos: Garding & surfacing of FAS 4812 & FAS 2012 from ND 32 to ND 45	232,000	533,600	765,600
	170	Grand Forks County: Surfacing of FAS 1822 from FAS 1833 to I-29, FAS 1812 from FAS 1833 to I-29; & FAS 1833 from FAS 1824 to ND 15	208,000	478,400	686,400
	171	Richland County: Grading & surfacing from Wahpeton to the Froedtert Malting Plant	48,000	110,400	158,400
	172	Ward & McHenry Cos: Grading & surfacing FAS 5158 & FAS 2546 from US 83 to ND 41	360,000	828,000	1,188,000
	173	Bottineau County: Grading & surfacing from Bottineau to ND 43	192,000	441,600	633,600
	174	McKenzie Co: Grading & surfacing of FAS 2750 from US-85 west (See P.L. 102-388 sect 401)	184,000	423,200	607,200
	175	Wells County: Grading & surfacing of FAS 5215	200,000	460,000	660,000
	176	Traill County: Grading & surfacing of FAS 4916 from ND 200 east to the Red River	224,000	515,200	739,200
	177	Eddy County: Grading & surfacing of FAS 1404 and FAS 1427	200,000	460,000	660,000
	178	Renville & Ward Cos: Grading & surfacing of FAS 3828 ... (See P.L. 102-388 sect 401)	72,000	165,600	237,600
	179	Morton Co: Grad & surf of FAS 3025 & 3020 at ND 49 SE to FAS 3033 (P.L. 102-388 sect 401)	248,000	570,400	818,400
	180	Walsh County: Surfacing of FAS 5017 and FAS 5022	200,000	460,000	660,000

INNOVATIVE PROJECTS IN SECTION 1107(b) OF THE ISTEA

State	Section Project Number	Project Location/Name	FY 1992 Contract Authority	FY 1993 Contract Authority	Total Contract Authority To Date
	181	Dickey County: Grading & surfacing of FAS 1112, FAS 1111, FAS 1137	320,000	736,000	1,056,000
	182	Burke County: Grading & surfacing of FAS 0717 from Lignite south to ND 50	352,000	809,600	1,161,600
	183	Morton Co: Bypass around W of Ft. Lincoln St Park from Mandan So (P.L. 102-388 sect 401)	256,000	588,800	844,800
	184	Rolette Co: Grading & surfacing from US 281 around access loop Rd & parking facility in Int Peace Garden (P.L. 102-388 sect 401)	152,000	349,600	501,600
	185	Oliver Co: Grad & surf of FAS 3331 from ND 200A at Hensler S. to ND 25 & FAS 3304 from FAS 3331 E to FAS 3339(P.L. 102-388 sect 401)	232,000	533,600	765,600
	186	Williams County: Grading & surfacing at County Road 5 from US-2 southerly to ND 1804	200,000	460,000	660,000
Ohio	1	Cadiz to St. Clairsville: Construction of a 4-lane limited access highway along US 250	1,600,000	3,680,000	5,280,000
	65	Aberdeen: US 62/68 Ohio River Bridge	1,240,000	2,852,000	4,092,000
	70	Brook Park: Aerospace Technology Park Access Road	1,136,000	2,612,800	3,748,800
	78	Akron: Kelly Avenue extension	760,000	1,748,000	2,508,000
	93	Franklin Co: I-270 North Outerbelt widening	816,000	1,876,800	2,692,800
	99	Rehabilitation of Bridge on US 224 near State Route 616	80,000	184,000	264,000
	197	Toledo: Design & construction of I-280 Maumee River Bridge to replace Craig Memorial Bridge	2,960,000	6,808,000	9,768,000
Oklahoma	8	Southern: Test effectiveness of recyclable materials on resurfacing of US 70	168,000	386,400	554,400
	9	Tulsa: Upgrade US 75 to expressway standards	1,120,000	2,576,000	3,696,000
	204	Oklahoma: Any highway improvement projects eligible for funding under title 23	4,720,000	10,856,000	15,576,000
Oregon	57	Salem: Contruct Salem Bypass	480,000	1,104,000	1,584,000
Pennsylvania	19	Borough of Water Street: Construction of a 2-lane bypass on US 22	640,000	1,472,000	2,112,000
	20	Borough of Hollidaysburg: Relocate US 22 around Hollidaysburg	4,160,000	9,568,000	13,728,000
	21	Lewistown: Safety improvements for rock slides on the Narrows	128,000	294,400	422,400
	22	Lewistown: Relocate US 22 north of Lewistown	4,664,000	10,727,200	15,391,200
	23	Reedsville: Construction of a 4-lane highway between Reedsville and Seven Mountains	2,808,000	6,458,400	9,266,400
	25	Roaring Springs: Add center turning lane on PA 36 from US 220 to Roaring Springs	704,000	1,619,200	2,323,200
	26	Altoona: Widen and extend Chestnut Avenue from Altoona to Juniata	569,600	1,310,080	1,879,680
	27	Bedford Co: Widen Rt. 30 from the Narrows in Bedford to Mt. Dallas	3,840,000	8,832,000	12,672,000
	31	Widen US 202 from King of Prussia to Montgomeryville	712,000	1,637,600	2,349,600
	52	Wilkes-Barre and Mountaintop: Design and construct two exits off I-81	1,336,000	3,072,800	4,408,800

INNOVATIVE PROJECTS IN SECTION 1107(b) OF THE ISTEA

State	Section Project Number	Project Location/Name	FY 1992 Contract Authority	FY 1993 Contract Authority	Total Contract Authority To Date
	58	Montgomeryville: Improve US 202 from Montgomeryville to Doylestown	864,000	1,987,200	2,851,200
	79	Exton: Exton Bypass	2,144,000	4,931,200	7,075,200
	110	Huntingdon Co.: Jacobs Timber Bridge over Greater Trough Creek	28,000	64,400	92,400
	134	Route 120 widening in the vicinity of Lock Haven	320,000	736,000	1,056,000
	135	Replace US-15 bridge across the Tioga River	256,000	588,800	844,800
	136	Wysox Narrows Road (US-6)	240,000	552,000	792,000
	145	Applied technology demonstration in advanced driver information systems:University of Arts	160,000	368,000	528,000
Rhode Island	140	Design & construction of stormdrain retrofit on I-95 and other highway runoff programs	1,040,000	2,392,000	3,432,000
	141	Historic renovation and development of intermodal center at Kingston RR station	160,000	368,000	528,000
	142	Lincoln & Cumberland: Historic rehab of Albion Bridge and Albion Trench Bridge	160,000	368,000	528,000
	143	Newport: To develop the marine mode of the intermodal Gateway Transportation Center	480,000	1,104,000	1,584,000
	144	Bristol: road improvements	160,000	368,000	528,000
	147	Woonsocket: Constuction of Route 99 Extension	156,800	360,640	517,440
	148	Woonsocket: Repaving streets	112,000	257,600	369,600
	149	Woonsocket: Improvements to 3 bridges crossing the Blackstone River	28,000	64,400	92,400
	150	Cranston: Reconstruction & repaving Park Ave, Sockanosett Crossroads, Olney Arnold Road, South Comstock Parkway, Wildflower Drive, Aqueduct Road and Mapleton Street	456,000	1,048,800	1,504,800
	151	For Operating expenses of the Rhode Island Public Transit Authority. (Admin by FTA)	1,440,000	3,312,000	4,752,000
South Carolina	84	Myrtle Beach: Carolina Bays Parkway	472,000	1,085,600	1,557,600
	138	Southern Connector Highway improvements in Greenville Co: Highway 17 Bridge replacement over the Cooper River in Charleston; Carolina Bays Parkway improvements in Myrtle Beach	880,000	2,024,000	2,904,000
	139	Rail Corridor Revitalization in Columbia	320,000	736,000	1,056,000
Tennessee	76	Sullivan Co: I-81/Industrial Park South Interchange	464,000	1,067,200	1,531,200
	77	Foothills Parkway from Pittman Center to Cosby - ** FHWA Federal Lands Project **	896,000	2,060,800	2,956,800
Texas	34	Brooks, Jim Wells, & Live Oaks Cos: Upgrade US 281 to the Mexican Border	2,208,000	5,078,400	7,286,400
	101	Ft. Worth: I-35 Basswood interchange	1,424,000	3,275,200	4,699,200
	114	Corpus Christi to Angleton: Construct new multi-lane freeway (SH-35 corridor)	3,336,000	7,672,800	11,008,800
	115	Fort Worth: Overpass and frontage road at Fort Worth Hillwood/I-35 Interchange	1,016,000	2,336,800	3,352,800

INNOVATIVE PROJECTS IN SECTION 1107(b) OF THE ISTEA

State	Section Project Number	Project Location/Name	FY 1992 Contract Authority	FY 1993 Contract Authority	Total Contract Authority To Date
Utah	45	Brigham City: Construct interchange on I-15 at Forest St.	288,000	662,400	950,400
	46	Davis & Weber Cos: Upgrade US 89	240,000	552,000	792,000
Virginia	14	Danville: Replace bridges on Main and Worsham Streets	800,000	1,840,000	2,640,000
	29	Blacksburg: Construct 6 mile 4-lane highway to demonstrate IVHS	472,000	1,085,600	1,557,600
	115	Hampton Roads: I-64 crossing of Hampton Roads	472,000	1,085,600	1,557,600
	157	Statewide: 4R, safety improvements, and modernization of Virginia Interstate System	5,080,000	11,684,000	16,764,000
Virgin Islands	94	St. Thomas: Feasibility study to construct second road to west end of island	136,000	312,800	448,800
Washington	39	Bryden: Construct 3 miles of highways connecting Clarkston, WA, and Lewiston, ID	312,000	717,600	1,029,600
	67	Snohomish Co: HOV lanes	520,000	1,196,000	1,716,000
	83	Merrysville: I-5/88th St. interchange improvements	152,000	349,600	501,600
	86	Hoquiam: Gray's Harbor Industrial Corridor Bridge	376,000	864,800	1,240,800
Wisconsin	131	Improvements to Highway 41 from Oshkosh to Green Bay	3,336,000	7,672,800	11,008,800
	132	Improvements to Highway 29 from Chippewa Falls to State Trunk Highway 73	2,264,000	5,207,200	7,471,200
Wyoming	156	Wyoming: Reconstruction of county roads not on the State Highway system	1,600,000	3,680,000	5,280,000
		* MULTI STATE PROJECTS *			
Maryland Pennsylvania	24*	Relocate railroad between Hagerstown, MD and Shippensburg, PA to eliminate 23 RR X-ings (Maryland & Pennsylvania)	1,152,000	2,649,600	3,801,600
Nebraska South Dakota	50*	Springfield: Plan, engineer, & contruct bridge accross Missouri River connecting SD Rt 37 to NE Hwy 12. (S. Dakota & Nebraska)	376,000	864,800	1,240,800
Nebraska South Dakota	51*	Vermillion: Engineer & contruct bridge across Missouri River. (S. Dakota & Nebraska)	288,000	662,400	950,400
New York Vermont	148*	Contruction of a highway from US-7 North of Bennington southwest to NY-7 in Hoosick, NY (Vermont & New York)	1,600,000	3,680,000	5,280,000
North Carolina Virginia	199*	Design & construct freeway from Rocky Mount to Elizabeth City, upgrade I-64 from Raleigh to Rocky Mount, & Route 17 from Elizabeth City to Norfolk. (N. Carolina & Virginia)	2,400,000	5,520,000	7,920,000
		Totals:	232,851,733	459,725,653	692,577,386

PRIORITY INTERMODAL PROJECTS IN SECTION 1106 OF THE 1991 ISTEA

State	Section Project Number	Project Location/Name	FY 1992 Contract Authority	FY 1993 Contract Authority	Total Contract Authority To Date
American Samoa	22	America Samoa: Rehabilitate 6 miles of Tau Road from Faleasao to Fatuita	88,000	202,400	290,400
	23	Manu's Is., America Samoa: Improve 6 miles of roadway from Ofu to Olosfaga and Siie	96,000	220,800	316,800
California	1	Long Beach: Interchange at of Terminal Island Freeway and Ocean Blvd.	944,000	2,171,200	3,115,200
	2	Wilmington: Widening of Anaheim St. Viaduct	944,000	2,171,200	3,115,200
	3	Wilmington: Grade separation project of Pacific Coast Highway near Alameda St	944,000	2,171,200	3,115,200
	4	Compton City: Widening of Alameda St. & grade separation between Rt. 91 and Del Amo Blvd.	944,000	2,171,200	3,115,200
	13	Purchase right-of-way, develop transportation corridor Larkspur to Koble, Novato to Lombard	1,208,000	2,778,400	3,986,400
	15	Los Angeles: Multi-modal transit parkway on Santa Monica Blvd. from I-405 to US 101	712,000	1,637,600	2,349,600
	16	Ontario: Complete construction of access roads to Ontario Airport	376,000	864,800	1,240,800
	21	San Jose: Upgrade Rt. 87 & local circulation system for San Jose Airport	1,184,000	2,723,200	3,907,200
	30	Oxnard: Extend Rice Road, widen Hueneme Road and contruct interchange	712,000	1,637,600	2,349,600
	31	Los Angeles: Improve ground access from Sepulveda Blvd. to Los Angeles	716,000	1,646,800	2,362,800
	36	Palmdale: Avenue P8 improvements	288,000	662,400	950,400
	46	Carson & Los Angeles Cos: Grade separation at Sepulveda Blvd and Alameda St	760,000	1,748,000	2,508,000
	51	Long Beach: Airport Access	680,000	1,564,000	2,244,000
Connecticut	9	East Haven Route 80, Wallingford I-91 and Wallingford Oakdale	808,000	1,858,400	2,666,400
Florida	18	Jacksonville: Construct new I-295 interchange and access road to seaport/airport	568,000	1,306,400	1,874,400
Georgia	11	Atlanta: Study of 5-Points Intermodal Terminal	192,000	441,600	633,600
	48	Augusta: Railroad overpass at 15th St and Greene St	472,000	1,085,600	1,557,600
Illinois	50	I-255 Interchange	272,000	625,600	897,600
Indiana	37	Lafayette: Railroad Relocation Project	1,944,000	4,471,200	6,415,200
	45	Gary: Extension of US 12/20 to Lake Michigan	176,000	404,800	580,800
Louisiana	49	Saint Bernard Intermodal Facility Engineering, Design, Construction	816,000	1,876,800	2,692,800
Michigan	8	Detroit: Van Dyke St ($1.0 M) and a depressed road under Detroit City Airport runway	344,000	791,200	1,135,200
	25	Detroit: Construct access road to Detroit Metro Airport including link to I-275	2,704,000	6,219,200	8,923,200
Minnesota	40	Minneapolis: Intermodal Urban connection project	1,592,000	3,661,600	5,253,600

PRIORITY INTERMODAL PROJECTS IN SECTION 1108 OF THE 1991 ISTEA

State	Section Project Number	Project Location/Name	FY 1992 Contract Authority	FY 1993 Contract Authority	Total Contract Authority To Date
Missouri	10	St. Louis: Rehabilitation of Eads Bridge	712,000	1,637,600	2,349,600
	27	St. Louis: Multi-modal transportation facility	472,000	1,085,600	1,557,600
	41	Kansas City: Bruce Watkins Roadway Improvements	112,000	257,600	369,600
	42	Kansas City: Smith Riverfront Expressway	1,016,000	2,336,800	3,352,800
Mississippi	34	I-20 interchange at Pirate Cove Road	272,000	625,600	897,600
	35	Jackson: Jackson Airport connectors	248,000	570,400	818,400
Nevada	17	Las Vegas: Conduct EIS & prel. engr for beltway & linking I-15 to MaCarran Airport (P.L. 102-388 Section 369 changed project)	304,000	699,200	1,003,200
New York	12	Buffalo: Buffalo River/Gateway Tunnel Project	1,616,000	3,716,800	5,332,800
	28	Orange & Rockland: Construct park & ride facilities, establish traffic management sys.	376,000	864,800	1,240,800
	32	Mt. Vernon: Construct intermodal facility at Mt. Vernon Rail Station	566,000	1,308,400	1,874,400
	33	Orange Co: I-87/I-84 Stuart Airport Interchange Project	1,256,000	2,888,800	4,144,800
Oklahoma	7	Ardmore: Study of upgrading SR 53 off US 35 leading to improved airport	200,000	460,000	660,000
Oregon	14	Widen 2.7 mi. of US 26 to add highway lanes and light rail	1,136,000	2,612,800	3,748,800
	43	Portland: Columbia Slough Intermodal Expansion Bridge	168,000	386,400	554,400
Pennsylvania	5	Upgrade US 30 from OH border to Pittsburgh International Airport	256,000	588,800	844,800
	8	Philadelphia: Reconstruct Old Delaware Avenue Service Road	192,000	441,600	633,600
	19	Allegheny Co.: Expansion of M.L. King Busway to serve Pittsburgh Airport & community	1,736,000	3,992,800	5,728,800
	26	Pittsburgh: Contruct exclusive busway linking Pittsburgh to Pittsburgh Airport	784,000	1,803,200	2,587,200
	29	Philadelphia: Improve mobility in vicinity of Pennsylvania Convention Center	760,000	1,748,000	2,508,000
	39	Erie Co.: Eastside Connector Project/Port of Erie Access	600,000	1,380,000	1,980,000
Texas	44	Ft. Worth: Ft. Worth Intermodal Center	1,072,000	2,465,600	3,537,600
	47	Williamson, Travis, Cadwell, Guadalupe: I-35 traffic congestion feasibility studies, R-O-W	416,000	956,800	1,372,800
Utah	36	Provo: South Access Road to Provo Municipal Airport	80,000	184,000	264,000
Washington	20	Pierce Co.: Feasibility study of expanding Tacoma Narrows Bridge; other alternatives	56,000	128,800	184,800
	24	Spokane: Conduct feasibility study of future tranportation needs of Southeastern WA	64,000	147,200	211,200
		Totals:	34,956,000	80,398,800	115,354,800

NATIONAL CENTER FOR ADVANCED TRANSPORTATION TECHNOLOGY IN SECTION 6023(b)(10)(c) OF THE 1991 ISTEA

State	Project Location/Name	FY 1992 Contract Authority	FY 1993 Contract Authority	Total Contract Authority To Date
Idaho	University of Idaho, Moscow	2,500,000	3,000,000	5,500,000
	Totals:	2,500,000	3,000,000	5,500,000

LIMITATION ON GENERAL OPERATING EXPENSES

Mr. CARR. The budget proposes that $116,260,000 of the total amount of $418,961,000 requested under the limitation on general operating expenses of the FHWA be allowed to remain available until expended. Detail the components that total $116,260,000 and the reason why the extended availability is considered needed.

[The information follows:]

The $116,260,000 is derived as follows:

Research and Technology	$104,510,000
Minority Business Enterprise	10,000,000
International Transportation	800,000
Rehabilitation of Turner Fairbank	950,000

It is virtually impossible to obligate these funds in a single fiscal year. Inherent to the contracting process are many time consuming procedures including: (1) writing technical and explicit proposal requests; (2) project advertisement; (3) contractor selection; (4) redistribution of funds when the contract price is less than estimated by the program manager or if a project is completed using fewer funds than contained in the contract; and (5) intergovernmental coordination to lessen the possibility of duplication of effort.

GENERAL OPERATING EXPENSES—FY 1994 REQUEST VS. FY 1993

Mr. CARR. The 1993 Transportations Appropriations Act contains $398,000,000 for the Limitation on General Operating Expenses. The budget document shows a 1993 limitation of $405,134,000. Explain the reasons for the difference.

[The information follows:]

The fiscal year 1993 adjusted base amount of $405,134,000 shown on page 45 of our Congressional Budget Justification constitutes the fiscal year 1993 appropriation of $398,000,000 plus or minus adjustments in mandatory and/or nonrecurring costs which are required to operate the General Operating Expenses account at the same program level in fiscal year 1994 as fiscal year 1993, i.e. no program expansion.

These mandatory adjustments include: (1) $1.951 million to cover approximately 3-months cost of the January 1993 pay raise which was not included in the fiscal year 1993 limitation amount; (2) $2.309 million to cover the costs of mandatory within-grade salary increases for GS employees and annual pay increases mandated for merit pay (GM) employees working at an acceptable level of performance; (3) $5.435 million to cover the estimated cost of inflation assuming a 2.7 percent inflation rate; (4) $17.524 million to cover the rental cost of office space which, in previous years, was included in an appropriation made to the Office of the Secretary; (5) a reduction of $4.944 million to reflect savings associated with the President's reduction in Federal employment; and (6) a reduction of $15.141 million associated with no-year programs for which we are requesting a fiscal year 1994 less funds in fiscal year 1994 than were appropriated in fiscal year 1993.

GENERAL OPERATING EXPENSES—IVHS REQUEST

Mr. CARR. Of the total requested increase in the limitation on general operating expenses of $83,827,000, $70,000,000 is for the IVHS program. Explain in detail the reasons for the balance of the requested increase.

[The information follows:]

Research and Technology—$11,500,000, will provide expanded efforts in Technology Assessment and Deployment ($6,784,000); Long-Term Pavement Performance ($3,838,000); and the National Highway Institute ($878,000).

The increase of $1,784,000 for the Minority Business Enterprise program will allow for continuing and/or maintaining supportive services (SS) activities designed to improve the short and long term technical, managerial and financial development of minority and women owned businesses desiring to participate in the Federal-aid Highway Program.

The additional $543,000 for International Transportation will provide for expanded activities associated with the International Outreach Program (i.e., searching for new technology abroad, support of private sector export activities, technology exchange and technical assistance).

GENERAL OPERATING EXPENSES—STATUS OF 1993 IVHS FUNDING

Mr. CARR. What is the status of the $30,000,000 included under the limitation on general operating expenses in 1993 for the IVHS program? Specifically, how much remains unobligated, and what are planned obligations for the balance of the fiscal year? Provide date, amount, and purpose of obligation.

[The information follows:]

The entire $30 million allocated for general operating expenses in the 1993 appropriations will be fully obligated by the end of the fiscal year.

Obligation of the LGOE funds tend to occur in the third quarter of the fiscal year. This is because much of this money is delivered through competitively awarded contracts. The process of RFP preparation, solicitation, and negotiations necessarily consumes the first half or more of the fiscal year. Two major contracts are also renewed in the third quarter each year, the option on our MITRE support contract is exercised in April, and we will be entering into a new contract with IVHS AMERICA in July.

GENERAL OPERATING EXPENSES—CONGESTED CORRIDOR OBLIGATIONS/ UNOBLIGATED BALANCE

Mr. CARR. According to the budget justifications there is an unobligated balance of $64,224,000 for the congested corridor activity. Why is this amount so large? Provide actual obligations for the past year for this activity in addition to estimated obligations for 1993.

[The information follows:]

The "Congested Corridor" category earmarked a total of $109 million to specific projects as part of the fiscal year 1992 appropriations process. Of this amount, we obligated $55.5 by the end of fiscal year 1992, and an additional $33.5 million early in fiscal year 1993, for a total of $89 million. The only earmarked project from this category which has not been obligated to this point is the Southern State Parkway. $20 million from the fiscal year 1992 appropriations is being reserved for this project.

AUTOMATED DATA PROCESSING EQUIPMENT

Mr. CARR. Provide detail for the $8,975,000 requested for automated data processing equipment under the limitation on general operating expenses. Also provide details on the $12,341,000 requested for the Transportation Computer Center in 1994.

[The information follows:]

Automated Data Processing Equipment

	Total cost
Nationwide initiatives:	
GIS/Engineering Workstations	$1,125,000
Electronic Filing	4,500,000
Subtotal	5,625,000
LAN/WAN upgrades:	
FEBBS	10,000
LAN equipment	100,000
Gateway Management	198,000
WPO customer advantage program	205,000
Upgrade Novell	92,000

Runtime netware	35,000
Subtotal	640,000
Miscellaneous:	
Hardware upgrades	500,000
Replacement equipment	250,000
EASEL runtime	210,000
Subtotal	960,000
Individual IRM Initiatives:	
Hardware/software upgrades	750,000
Support for field applications development	1,000,000
Total	8,975,000

The GIS/Engineering Workstations will enhance our EDS initiatives with our State partners. The workstations will greatly streamline FHWA program management by providing access to state Geographical Information Systems (GIS) and Computer-Aided Drafting/Design (CADD) systems.

The Electronic Filing Systems will give FHWA offices the ability to route electronic images of correspondence to all employees in an office improving the internal and external communications, as well as providing the ability to store documents electronically thereby reducing space requirements for project files and other agency records.

The upgrades to the LANs/WAN will provide for a means of managing all LANs and WAN locally, reducing the need to travel from regional offices to their division offices. The WAN can be managed from headquarters remotely saving multiple conversations with remote locations. The software upgrades will bring all versions up to current releases.

The miscellaneous hardware/software upgrades will provide for a graphical access to FHWA's nationwide systems processed at the Transportation Computer Center. The replacement equipment funding will provide the ability to acquire new hardware to replace that which is not cost effective to repair.

The IRM initiatives have been identified in the annual IRM Plan prepared by headquarters and field office. These are local projects that have been identified and documented in the plan, for example, hardware/software upgrades to take advantage of commercially available packages such as Windows, etc. and applications development to support local office functions as well as EDS initiatives.

Transportation computer center.—FHWA obtains its mainframe computer processing from the US DOT's Transportation Computer Center. FHWA is billed through the Working Capital Fund. The rate are calculated by the Office of the Secretary based upon a cost recovery scheme. The funding requested will provide computer and data communications support to process FHWA's nationwide systems, such as, the Fiscal Management Information System, Payments to States, Motor Carrier Management Information System, National Bridge Inventory System, etc. These systems, accessed by both FHWA field and headquarters offices as well as State agencies, are the basis for FHWA's Electronic Data Sharing effort.

GENERAL OPERATING EXPENSES—RESEARCH AND TECHNOLOGY

Mr. CARR. As the justification material notes: "With the current annual loss of approximately 41,000 lives and economic losses from highway accidents in excess of $300 billion, this research program is needed to aid in creating a safer highway system." Why then does the amount requested decline from $48,043,000 in 1993 to $42,700,000 in 1994? Are you downplaying the importance of research and technology in 1994?

[The information follows:]

We are continuing to place a very high priority on highway safety research. Our highway safety research budget in FY 1993 was $8,464,000. For FY 1994, we have been able to apply appropriate portions of the funds available in Section 6005 of the ISTEA to satisfactorily supplement our GOE budget.

Mr. CARR. Highlight the major accomplishments in research the Department has been conducting regarding the specific problems faced by older drivers.

[The information follows:]

Major research findings to date with regard to older drivers include:

Older drivers generally underestimate the "time to collision."

Older drivers may have difficulty in perceiving velocities of oncoming vehicles.

Letter heights need to be larger on signs to meet older vision limits. The rule of thumb of 1 inch of letter height equals 50 feet of sight distance is too large for letters above 16 inches.

The requirements for the driver "perception-reaction" times for intersections, stopping, and decision sight distance need not be changed in the AASHTO design guidelines.

Mr. CARR. What work do you have planned in this area in 1994?

[The information follows:]

We have two major studies planned for FY 1994 which will consider the older driver requirements. These studies are "Night Driving and Highway Lighting Requirements" budgeted for $750,000 and "Traffic Control in Construction and Maintenance Zones" budgeted for $400,000.

BICYCLE-PEDESTRIAN RESEARCH

Mr. CARR. What is the status of the planned five-year effort on bicycle-pedestrian research? Has the contract been awarded yet? What is the total cost of the effort? What are the major objectives? Why will the study take five years?

[The information follows:]

On October 1, 1992, Federal Highway Administration (FHWA) awarded a 5-year competitive contract entitled "Pedestrian and Bicyclist Safety—Administrative and Technical Support" to the University of North Carolina Highway Safety Research Center (HSRC) and subcontractors, Dunlap & Associates, the Center for Applied Research, and the Bicycle Federation of America. The total cost of the five-year study is $4,410,043. This contract is actually more of a level-of-effort commitment, as many different research studies will be identified and performed during the five years.

The specific objectives of this effort are to provide technical and administrative support in the rapid planning, development, management, and conduct of FHWA pedestrian and bicyclist research. These activities will be directed by the Federal Highway Administration and in cooperation with the National Highway Traffic Safety Administration.

These responsibilities include developing a long-range research plan and conducting individual studies. HSRC is currently developing the FHWA pedestrian and bicycle safety research plan. HSRC will identify gaps in pedestrian and bicycle safety, and from these gaps develop and prioritize several research topics. Pedestrian and bicycle research topics for individual studies will be identified through review of past research; accident typing study; focus group discussions for public input; and general discussions with transportation professionals, educators, and law enforcement.

Based on the approved plan, a series of individual research studies will be conducted. Examples of the types of studies to be performed include updating the pedestrian and bicycle chapters (13 & 14) of the Highway Capacity Manual, and evaluating and developing guidelines for traffic calming techniques to make residential streets more amenable to pedestrian and bicycle traffic.

ECONOMIC COSTS AND BENEFITS RESEARCH

Mr. CARR. What research is underway or planned that addresses the economic impact of various transportation projects or analyzes the economic costs and benefits of various projects?

[The information follows:]

The detailed evaluation required in each operational test is one of the primary means to measure, in a real world environment, the impacts, costs and benefits of particular IVHS projects. To ensure that high quality evaluations are conducted, a major research contract will be awarded this year to an organization that will work with the various operational tests to develop meaningful experimental designs, and then assist the FHWA in monitoring the actual evaluations.

Also, a study is underway to determine the feasibility of developing severity indices for various roadway objects by linking the data from crash tests to real world accident data. If successful, additional work will be performed in this area, and the severity indices developed could be used in benefit/cost models for roadside design.

The Highway Economic Requirements System (HERS) is being developed to apply economic measures to the evaluation of alternative highway investment strategies. This model considers both the agency costs of construction, rehabilitation, and maintenance, and user costs of time, vehicle operating costs, and costs of highway crashes. The costs and benefits of potential highway improvements are evaluated to determine what capital improvements should be implemented and when they should be constructed. Incremental benefit/cost analysis is used to make these decisions. We plan to introduce the results of HERS analysis in the 1994 report to the Congress, "The Status of Nation's Highways, Bridges, and Transit: Conditions and Performance."

POLICY RESEARCH

Mr. CARR. Under policy research, the justification material indicates that "a new analytical capability will be developed to allow multimodal investment strategies to be evaluated." Provide details on the type of work to be performed in this area. What product do you hope to generate and when will it be completed?

[The information follows:]

The Highway Economic Requirements System (HERS) is being developed to apply economic measures to the evaluation of alternative highway investment strategies. However, there is no comparable tool that will incorporate the transit component of people movement. We are initiating a project to incorporate transit options in a modeling environment similar to the HERS model. This would evaluate alternative transportation capital investment strategies, considering both highway and transit choices. Comparable measures of highway and transit effectiveness will have to be developed. This is a significant new effort, and at least 5 years will be required to bring such a project to completion.

NHTSA IVHS SAFETY EVALUATIONS

Mr. CARR. Included within the 1994 request for IVHS research and development is $9,000,000 the FHWA intends to transfer to NHTSA to conduct safety evaluations of ongoing operational tests. Why didn't NHTSA just bugdet for the money? Have the specific operational sites been selected yet? How was the figure of $9,000,000 determined? Who will have control over the money? Who will make the selection of the sites to be studied?

[The information follows:]

NHTSA is already involved in evaluating the safety aspects of several ongoing operational tests, including ADVANCE in Chicago, and FAST-TRAC in Oakland County, MI. From the $9 million identified for NHTSA in FY 1994, $2.5 million will be used to conduct safety evaluations of these and other operational tests. Specific additional sites will be identified from the 16 new operational tests which were selected from the first project solicitation, as well as new projects which will be initiated in FY 94. In addition, $3.5 million will be used for performance specification development for collision avoidance systems, many of which are critical for the automated highway system. The remaining $3 million will provide initial funding to form a partnership to operationally test a communications system for automatically summoning emergency medical assistance following an accident, and for providing precise data on the location of the crash. The entire $9 million will be transferred to NHTSA at the beginning of FY 94, and NHTSA will have control over the money.

IVHS AMERICA

Mr. CARR. How much money has FHWA provided to IVHS AMERICA by year, since the passage of ISTEA? How much is planned for 1994? What part of IVHS AMERICA's total budget does this represent?

[The information follows:]

FHWA has provided almost $2.9 million to IVHS AMERICA since our first contract was signed in December of 1990. We are currently in the process of developing an RFP package for a new contract. This will be a multi-year contract that will require the negotiation of specific task orders annually. The multi-year contract will establish an overall level of effort within which the Federal share of the cost of the work defined by the task orders must conform. Our preliminary estimate is that this will be on the order of about $2 million per year. According to IVHS AMERICA's annual report for 1992, the Federal share of their total operating revenue was 36%. As IVHS AMERICA continues to grow, the Federal government share of their total budget will grow smaller.

IVHS PROGRAM AND SYSTEMS SUPPORT

Mr. CARR. The IVHS program and systems support amount decreases from $12,500,000 in 1993 to $12,300,000 in 1994, although it still represents a significant percentage of the LGOE assistance for IVHS. Provide detail on the use of these funds.

[The information follows:]

The $12,300,000 requested in fiscal year 1994 will be used as follows:

Mitre Systems Engineering and Program Support Services for the IVHS Program: $4.5 million.

Information Management Support Contract: $0.4.

Support for IVHS-AMERICA: $2.0 million.

IVHS Technology Transfer Activities: $3.0 million.

IVHS Institutional Issues Program: $2.4 million.

As shown above, over half of these funds are used for our contracts with the MITRE Corporation and IVHS AMERICA. These contracts have enabled us to acquire technical and program development support of critical activities, for example, system architecture, radio frequency acquisition, the automated highway system, program planning, outreach and operational test evaluations. It is imperative that these continue to be funded at the levels shown.

Mr. CARR. What do you envision as the proper level of program and system support for IVHS in the future? How much of the 1993 and 1994 funds will go to the MITRE Corporation and to the Volpe Center?

What are 1993 obligations to date in the IVHS program and systems support and what are planned obligation for the balance of the fiscal year?

[The information follows:]

To date, we have not obligated any of the $6.7 million budgeted for IVHS program and systems support. We anticipate obligating all of the budgeted funds by the end of the fiscal year. We are in the process of renewing contracts with IVHS AMERICA and the MITRE Corporation that account for over 90 percent of the budgeted funds.

The MITRE Corporation will receive $4.3 million of fiscal year 1993 funds and an estimated $4.5 million of fiscal year 1994 funds. Funds obligated in prior fiscal years, but not yet spent, will increase the effective level of effort in the MITRE contract to $4.9 million during the remaining two option years in their contract. In fiscal year 1993, we will transfer almost $2.2 million to the Volpe National Transportation Systems Center for work in the areas of benefits estimation, institutional issues, and public acceptance. We will likely transfer a similar amount in fiscal year 1994.

LONG-TERM PAVEMENT PERFORMANCE REQUEST

Mr. CARR. A total of $10,000,000 is requested in 1994 for long-term pavement performance, an increase of $4,000,000 above the 1993 level. The justification material provides little explanation as to why a 66 percent is needed in 1994. Can you be more specific about the need for and use of these funds?

[The information follows:]

The Long-Term Pavement Performance (LTPP) program was funded by the Strategic Highway Research Program (SHRP) for 5 years as a part of the $150 million SHRP legislative package included in the Surface Transportation Assistance Act of 1987. An annual LTPP budget of $10 million was established. During this period, broad program goals and objectives were established. Additionally, most of the necessary field data collection guides were prepared, experimental pavement designs were identified, material handling and testing methods were established, and equipment calibration procedures were specified. The initial round of field data collection was completed on all existing, in-service General Pavement Study (GSP) sections.

The LTPP program was envisioned as a 20-year program since its inception. On July 1, 1992, the Federal Highway Administration (FHWA) assumed the responsibility to continue the LTPP program for its remaining 15 years. A required operating budget was established at $10 million per year. In 1993, the budget level was reduced from the $10 million 1992 level to $6 million. This reduction has caused the delay of initiating research contracts for equipment replacement, material testing and traffic engineering technical support. The $10 million requested in 1994 represents a request to return to the 1992 funding level, so that scheduled research activities can proceed without further delay.

LTPP activities for the second 5-year period (1992–1997) are focused on: (1) refining LTPP system operation; (2) finishing all specially designed and constructed experimental test sections identified in the Specific Pavement Study (SPS); (3) integrating LTPP and other SHRP activities (SHRP research in asphalt, concrete and structures, and highway maintenance); (4) continuing international cooperation; and (5) conducting data analyses and special studies. The SPS experiment involves the construction and/or re-construction of selected highway projects. Unlike the GPS experiment, most of these sections will require continuous weigh-in-motion traffic monitoring, pavement response instrumentation and weather station measurements. The level of effort will increase as we proceed to complete this experiment by 1997.

Specifically, the 66 percent requested increase in 1994 funding, back to the $10 million level will assure that the delayed research contracts will proceed in a timely fashion and that: (1) necessary instrumentation of the test sections included in the Seasonal Monitoring Program will be completed; (2) operation of the LTPP Material Reference Library will continue; (3) quantification of typical pavement layer thickness variability will be completed for 100 GPS test sections; (4) improved materials for pavement maintenance are identified; and (5) concrete material specifications and test methods are adopted by the States.

TECHNOLOGY ASSESSMENT AND DEPLOYMENT

Mr. CARR. The request for technology assessment and deployment increases from $8,000,000 in 1993 to $15,000,000 in 1994. As the budget justification indicate, "fact finding trips abroad to identify technologies for use in the U.S.A. is another mission of FHWA's technology transfer efforts." How much funding was devoted to such fact finding trips abroad in fiscal year 1992? How much is planned for 1993 and 1994? Provide the countries visited in 1992 and 1993 to date and the technologies studied. Provide the countries planned to be visited in the balance of 1993 and in 1994 and the technologies intended to be studied.

[The information follows:]

While fact finding trips abroad to identify technologies for use in the US are part of the broad technology transfer mission of FHWA, the funding for such trips comes primarily from other sources through the Office of International Programs. Office of Technology Applications (OTA) participation in the fact finding trips is part of an agency wide effort requiring a commitment of people resources more than funding from the Technology Assessment and Deployment (TAD) budget. The international scanning efforts in which OTA participates in cooperation with the Office of International Programs, do provide new technologies that need to be assessed and packaged for promotion and deployment by the US highway community. The follow up activities necessary to bring these identified technologies into use in the US is a part of the TAD program. As an example, based on the European Asphalt Study Tour in 1990, five Stone Matrix Asphalt (SMA) projects were built in 1991, 12 more in 1992 and a similar number planned for 1993. Another example is based on the Tour of European Concrete Highways in 1992. A project in Michigan incorporating the European construction practices was approved after a technical team made an in-depth visit to Austria and Germany. Additional projects are under consideration for construction in 1993. The Office of International Programs is finalizing the scanning program for fiscal year 1994.

Mr. CARR. Detail specifically how you intend to use the 88 percent requested increase in this activity.

[The information follows:]

Nationally and internationally the public and private sectors are increasing research efforts to provide technologies that address ever-growing challenges. Results of these efforts must be put into practice quickly and widely to benefit the nation's transportation system and to improve the US technical presence abroad. At the same time the products of research are increasing in complexity. This fact and the size, scope, and jurisdictional nature of highway administrations require a sophisticated approach to moving the products into practice. The expanded Technology Assessment and Deployment program will accelerate the application of new technologies by evaluating and establishing the validity of technologies; by developing a closer relationship among the research community, program delivery personnel, and end users; by integrating technology transfer efforts into day-to-day program activities and building an application base with end users; and by communicating new highway products and programs to transportation professionals domestically and abroad.

The process of technology transfer is a time consuming process. The logistics of technology identification and assessment, project planning through cooperative efforts with the States and the private sector, and in carrying out the project on suitable field construction sites in nearly all 50 States are extremely complex. As a result most of the projects are multi-year in nature with pilot activities in the first years. Ultimately, most States will be visited as a part of each project. The expanded budget request will be used to "ramp up" many of these preliminary projects and bring them to full operational status. Examples are listed below.

Many of the new high priority technologies being worked on as a part of the TAD program are also applicable to users in local highway agencies and these technology transfer activities will be available for inclusion into the Local Technical Assistance Program (LTAP).

One of the items will be expanded emphasis on the use of Stone Matrix Asphalt (SMA) as an innovative solution to asphalt rutting. As a result of a tour of six European countries in 1990 by 21 individuals representing the FHWA, the American Association of State Highway and Transportation Officials, the National Asphalt Pavement Association, The Asphalt Institute, the Strategic Highway Research Program, and the Transportation Research Board, SMA was identified as a technology worth trying in the US. SMA is an asphalt mixture developed in Germany to provide a rut resistant pavement surface layer. The strength of SMA is attributable to a "gap-graded" aggregate gradation that results in a stone-to-stone structure held together by a durable asphalt filler, fiber mastic. Joint research efforts are optimizing the SMA design and construction process and will lead to more effective use of this product. Expanded field demonstrations and technical assistance provided at the construction site through the use of fully equipped mobile asphalt laboratories will be utilized.

Innovative solutions in ground engineering and ground improvement are available to address problems resulting from space constraints in urban construction, utilization of substandard materials and unique design requirements of highway construction and reconstruction projects. Techniques such as mechanically stabilized earth walls, soil nail walls and dynamic compaction are proven methods of ground improvement which have the potential to solve the engineering problems, as well as save construction funds, are a part of the Ground Improvement Techniques project. Through this project, innovative technologies will be delivered to the practicing engineer and applications will be fostered using a multi-pronged approach of specification development and application, and application of computerized analysis methods where appropriate; workshops on design and construction will be followed by hands-on development of ground improvement solutions for specific projects which are scheduled for construction. Follow-on activities will include instrumentation to evaluate the short and long term performance of the solutions.

Scour of foundation materials at bridge substructures has resulted in catastrophic bridge collapses as well as in a continuing problem of damaged foundations needing repairs to ensure bridge integrity. The occurrence of scour problems at unexpected locations or at higher than anticipated rates creates a need for more aggressive and effective scour monitoring procedures. Promising and/or proven hardware will be applied to scour critical bridges to test the equipment and also to demonstrate effective applications to a broad audience of users through a new Scour and Underwater Repair project. Effective methods of repairing unstable foundations will be applied to site specific conditions to develop solutions to long term stability and scour protection. The skill of engineering a solution to a scoured or damaged foundation problem will be transferred through assisting bridge engineers with practical applications of techniques tailored for site specific conditions.

As a result of major executive level reviews of European paving practices, many new and innovative concepts will be the subject of significant evaluation, especially in the areas of concrete pavement. With momentum gathered through the construction of a Michigan European concrete section in Detroit in the fall of 1993, emphasis will be expanded on this subject in fiscal year 1994 and beyond. The European concrete challenge encompasses much thicker pavements, more solid foundations, greater attention to drainage and pavement surface characteristics. Many more sections are planned for construction in the next few years throughout the nation.

High performance concretes (HPC) and high strength concretes (HSC) incorporate materials and mix procedures which produce structural concretes with significant increases in durability and strength when compared to normal concretes. Dramatic savings in initial construction costs using HSC and increased service life and lower maintenance costs with HPC can be achieved by application of these materials in highway bridges. One excellent approach to evaluating and demonstrating the advantages is to build parallel structures at a location. One structure would be designed and constructed as per existing practice. The second structure would incorporate all the available new technology for design, materials, construction methods, and long term monitoring. All the structural elements including foundations, retaining walls, abutments, girders and deck would incorporate State-of-Art technology. This approach would provide comparison of new and old technology and would provide an excellent example of cost differentials, ease of construction, and a unique opportunity to monitor long term performance.

The early acceptance of a new specification on load and resistance factor design (LRFD) as a part of the AASHTO bridge specifications will be promoted in a series of 5-day workshops. These workshops for bridge engineers will provide information on the new specification and develop their practical skills in applying it, thus accelerating acceptance of LRFD into practice.

To showcase the developments on new technologies for design and construction of deep foundations for structures, an international conference on innovative technologies for deep foundations will be held in Orlando, Florida in December of 1994. The currently active demonstration project on pile foundations will be expanded to promote the many new advances that have recently occurred in foundation design and construction.

Efforts needed to disseminate new highway safety technology are increasing at a rapid pace and in complexity. Also, many efforts underway will require more intense activity if they are to be put into routine use over a one or two year time frame. For example, to demonstrate the laser based retroreflectivity equipment that will enable minimum visibility guidelines of signs and markings, multiple units of each type of device (pavement markings and signs) will be necessary to promote this technology to the fifty states. Because the States are not the only entities that have responsibility for signs and markings; many counties, cities and towns will also be offered the opportunity to receive demonstrations on these devices as well. This substantially increases the complexity of delivering this technology. It is unacceptable to have this needed technology phased in over many years, and the increased funding will be used to accelerate implementation efforts. In the same way, accelerated promotion for the implementation of community based pedestrian safety programs is necessary, even if it is to target only those locations where pedestrian accidents are significant or on the increase.

A new effort to be initiated with increased funding is the use of automated technology to collect and transfer accident data. Statistical data gathered in the past related to highway safety, automobile crashes, etc., have not been as accurate or timely as desired. This will become most important as safety management systems, mandated by ISTEA, develop and are put to use. Also, as additional demands are put on those asked to collect the data (primarily enforcement/police agencies), the quality of data is likely to deteriorate. New, more efficient and innovative technologies must be applied to simplify and speed data collection and transfer. Technologies such as global positioning systems, Total Station, bar coding, magnetic stripe, automated vehicle identification, digital camera, pen-based computing, voice recognition, etc., must be packaged, evaluated and promoted to the highway and enforcement sectors.

The need to disseminate innovative motor carrier safety is also rapidly increasing. Increased funding will be used to test and evaluate automated brake testing technology for commercial vehicles. The checking of brake systems is currently a time consuming process (20–30 minutes) and the sheer volume of vehicles means that only a limited number can be checked. Innovative technologies are beginning to appear which address the need for fast and accurate brake inspections. Those showing promise of increasing the efficiency of roadside inspections need to be tested in an inservice environment. Those shown to be successful will be widely promoted in a timely manner.

The FHWA has developed the framework for a public outreach campaign designed to improve the behavior and performance of the highway users by increasing awareness of highway-related safety issues. Compliance with traffic control devices is the target, with an initial focus on red light running. Greater compliance through social marketing should enhance safety. A pilot campaign will be implemented in a city as a trial, after which, the campaign will be offered to communities nationwide. Increased funding will be used to provide this campaign to more users and accelerate its delivery.

In addition to the above public service campaign, increased funding will allow inservice test and evaluation of automated enforcement equipment to increase compliance with and respect for traffic signals. Equipment cost, installation, operation, maintenance and effectiveness will be evaluated.

Multiple devices for the measurement and inservice evaluation of the retroreflectivity of traffic control devices will be procured for use and inservice evaluation by the States. These new retroreflectometer devices will allow reflectivity-visibility guidelines to be established for signs and markings to enhance safety and positive guidance for the motorists.

As Intelligent Vehicle Highway Systems (IVHS) continue to mature, a large influx of new traffic and motor carrier technologies will be developed and will be in need of immediate promotion and implementation. In addition, technical information sources will be developed, including the Traffic Control Systems—IVHS Handbook, which will be distributed to highway users nationwide. Advanced traffic sensors and diagnostic equipment will be field tested and evaluated. A series of national and regional seminars on Integrated Highway Information Systems will be conducted.

The largest mobile demonstration of intersection traffic control and IVHS technology ever assembled is now touring the U.S. as a part of our project on Advanced Traffic Control Technologies. By expanding and accelerating the scheduling of this mobile display, it is expected to visit every State and most major cities within the next two years. The combination hands-on demonstration and workshop will expose hundreds of traffic engineers, technicians and managers to leading edge electronic equipment that, if properly utilized by State and local highway agencies, will, as a minimum reduce vehicle delay by 15 percent, vehicle steps by 16 percent, excess travel time by 7 percent, and excess fuel consumption by 9 percent. This is a public-private industry partnership participated in by 24 companies and system software firms which have joined with the FHWA to reduce urban traffic congestion.

A new project is being planned to address leading edge freeway surveillance and control equipment used in managing the flow of traffic on the main line of freeways, at interchanges and ramps, on parallel frontage roads and freeway control centers. This multi-year project will tour most of the 50 States and major urban areas. The equipment will include changeable message signs, closed circuit television (CCTV) monitoring, vehicle detectors, highway advisory radio, motorist aid systems, communication systems, and computer control centers. A mobile display vehicle and workshop presentations will be developed. Private sector participation will be solicited, i.e., equipment manufacturers and software systems firms. Benefit to cost analysis will be developed to evaluate the impact of various levels of control. High occupancy vehicle strategies and automated toll collection systems will also be included. The results of the projects are expected to raise the level of awareness of traffic engineers and upper-management as to the value of adopting and implementing the best available technologies to reduce congestion on freeways. Participants will also be exposed to a wide range of IVHS type control systems. Over time, the project will be modified to keep abreast of rapid advances in the technology as these become available.

Mr. CARR. Provided a breakout of the budget request by subactivity, or example, how much is for roadway application, how much for structures and soils, how much for safety and design, how much for program support, etc. Include such detail in the justification material for all future budget requests.

[The information follows:]

The following table summarizes the breakout of the budget request by subactivity.

Technology Assessment and Deployment Program—Fiscal Year 1994 Budget Summary

Category	*Budget (millions)*
1. Roadway Applications	$3.0
2. Structures and Soils	5.0
3. Safety and Design	2.0
4. Traffic and Motor Carrier	3.0
5. Technology Assessment	0.75
6. Program Support	1.25
Totals	15.0

LOCAL RURAL TECHNICAL ASSISTANCE PROGRAM

Mr. CARR. Given the number of accidents that occur in rural areas, the millions of vehicle miles traveled in rural areas, and the increased emphasis on rural programs elsewhere (for example in IVHS) why does the local rural technical assistance program decline by 88 percent from $4,000,000 in 1993 to only $500,000 in 1994?

[The information follows:]

Ideas for new products for use by the 51 technology transfer centers were solicited in 1992. In 1993 the topics for products were ranked by representatives of the local technology transfer community and procurement packages were prepared to solicit proposals for product development. Most of the new products should be delivered in 1994. Ideas for new products will again be solicited in 1994 and product development will begin in fiscal year 1995. Many of the products and technologies being developed for State highway agencies as part of the Technology Assessment and Deployment budget are also applicable to the LTAP audience. Increases in that program will offset the fiscal year 1994 reduction in LTAP. The $500,000 in the 1994 budget is needed to fund the Department of Transportation's share of the National Rural Initiative Program. These funds are transferred to the Department of Agriculture which has the lead responsibility for the initiative.

Mr. CARR. Provide details on how the 1993 and 1994 funds will be spent?

[The information follows:]

The $4,000,000 in 1993 funds have been used to provide supplemental funding to the 51 technology transfer centers to initiate technology transfer activities for governments in urban areas and to the four new centers recently established. The coverage provided by the program was expanded by the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 to include urban areas in the population range of 50,00 to 1,000,000 and American Indian tribal governments. In response to the ISTEA, the FHWA and the Bureau of Indian Affairs set up four new technology transfer centers to serve American Indian tribal governments. A portion of the 1993 budget will also be used to fund the development of new products for use by the 55 technology transfer centers nationwide. The funding for the National Rural Initiative Program also comes from the $4,000,000.

All of the 1994 request will be used to fund the Department of Transportation's share of the National Rural Initiative Program.

NATIONAL HIGHWAY INSTITUTE

Mr. Carr. A total of $5,500,000 is requested for the National Highway Institute in 1994, an increase of $1,000,000 above the 1993 level. How much of the Institute's total budget does this represent?

[The information follows:]

The National Highway Institute (NHI) total contract program budget for 1994 is $5,500,000; therefore, the increase of $1,000,000 is about 18.2 percent of the National Highway Institute (NHI) budget for 1994. The NHI budget increase is a result of increased demand for new technology training in the public and private sectors of the highway community.

Mr. Carr. How many people are employed full-time at the Institute?

[The information follows:]

There are 13 full-time Federal Government employees at the Institute which are assisted by nine other staff members who are either on loan from a State or foreign government or employed by a support services contractor.

Mr. Carr. How many of the full-time employees are former personnel of the FHWA?

[The information follows:]

The NHI is part of the Federal Highway Administration, and as such, the 13 full-time employees are FHWA staff. None of the nine other staff members are former FHWA employees.

Mr. Carr. What is the salary structure of the Institute?

[The information follows:]

The Institute has the same salary structure as all Civil Service employees—either SES, GM or GS. The Director is in the Senior Executive Service, and has a GS–9 and a GS–8 on his staff. The chiefs of his two Divisions are GM–15s. The State Programs Division has three GM–13s, one GS–12, and one GS–6. The University, Industry and International Division has two GM–14s and one GM–13. The balance of the Institute's 22 staff members are either contract employees, international loaned staff or under Intergovernmental Personnel Act agreements. All of their salaries are within the same grade structure.

Mr. Carr. What emphasis, if any, does the Institute place upon economic rates of return and cost-benefit analyses in its training sessions?

[The information follows:]

The NHI's program of course development and delivery to State and local Government agencies is based on the concept that the Institute will recover approximately 50 percent of its costs for those courses. Courses planned for delivery to the private sector or international organizations will attempt to recover 100 percent of the cost.

Mr. Carr. What role does the FHWA play in determining the content of the Institute's training sessions?

[The information follows:]

The NHI is an element of the FHWA and its programs are developed and managed by FHWA employees.

INTERNATIONAL TRANSPORTATION ACTIVITIES

Mr. Carr. The program level for international transportation activities increases from $250,000 in 1993 to a requested $800,000 in 1994. What are the principal reasons for this three-fold increases?

[The information follows:]

In response to needs and U.S. foreign policies, the $550,000 increase would be used as follows: $180,000 for technical assistance to Russia; $280,000 for technical assistance to other Central and Eastern European countries, and $90,000 on U.S.-Mexico cross-border highway issues.

Mr. CARR. How much of the requested increase relates to North American Free Trade Agreement issues?

[The information follows:]

$90,000.

RIGHT-OF-WAY REVOLVING FUND

Mr. CARR. The budget includes $42,500,000 for the right-of-way revolving fund, the same amount as in 1993. Provide detail on the use of funding in 1993, indicating which projects received funding and the basis for that funding.

[The information follows:]

We received an obligational authority of $42,500,000 for the Revolving Fund for fiscal year 1993. Sixteen states submitted requests for 33 projects totalling over $132,000,000. We were able to support funding request to 14 states on 19 projects. Projects were ranked based on standard criteria used by State and Division offices. A list of the states and preliminary allocations made for fiscal year 1993 is shown below.

New Jersey	$3,000,000
Delaware	3,000,000
Pennsylvania	1,350,000
Florida	2,000,000
Georgia	4,000,000
N Carolina	3,000,000
Missouri	5,000,000
Montana	250,000
N Dakota	750,000
Utah	850,000
California	12,000,000
Nevada	3,000,000
Idaho	2,300,000
Washington	2,000,000
	42,500,000

Mr. CARR. Did the FHWA fund any right-of-way project in 1993 that was not on a state's priority list?

[The information follows:]

No. All projects selected to receive funds were selected from the lists submitted by the States.

Mr. CARR. Provide the criteria the FHWA uses to determine which right-of-way revolving fund projects to support?

[The information follows:]

The following criteria is used at each level of evaluation, i.e. the state, the FHWA Division and Regional offices, and at FHWA Headquarters.

Cost savings—avoidance of escalating real estate costs or relocation costs associated with developed properties.

Type of facility—High type, usually controlled access roadways serving important national or regional [sub-state] needs, receive priority consideration.

Environmental assessment—Because highway funds cannot be expended on a project until the appropriate environmental document has been approved, the status of this documentation is critical.

Use of prior allocations—With the increasing demand for these funds, the past performance of a state in returning funds so they can be "revolved" to other projects is important.

Obligational ability—All funds must be obligated in the same fiscal year in which the funds were allocated. Any factors, known to the applicant, that may hinder the obligation of funds must be addressed in the application.

Other criteria—Other criteria considered include, prior allocations to the project, total project cost, corridor preservation innovation, project connectivity [i.e. the relationship of the project to other highway, or intermodal, projects], and the national geographical distribution of funds available for allocation.

ORANGE COUNTY, CA TOLL ROAD DEMONSTRATION

Mr. CARR. Section 339 of the 1993 Department of Transportation and Related Agencies Appropriations Act provided $9,600,000 to enable the Secretary to enter into an agreement to make a loan to public entities to aid in the construction of a toll road in Orange County, California. What is the current status of this project? Would the project have been possible without the authority contained in section 339?

[The information follows:]

An analysis determined that the $9,600,000 will support the maximum loan amount of $120,000,000 authorized by section 339. Accordingly, the State was allocated $120,000,000 for this loan program. The State in turn is handling arrangements with the Transportation Corridor Agencies (TCA) of Orange County to establish accessibility to this $120,000,000 line of credit should it be needed in the future based on the criteria in section 339.

This toll project would likely proceed regardless of whether section 339 had been enacted. The line-of-credit provisions of section 339 may have had some favorable impact on the financing terms the TCA is securing but we have no specific measure of this impact. We also understand this Federal line-of-credit could possibly have a negative impact on the project's tax exempt status for its bonds and TCA is pursuing this issue with the Internal Revenue Service.

GENERAL PROVISIONS—SECTION 310

Mr. CARR. Explain in detail the reasons for every change proposed in the budget to section 310 of the Department of Transportation and Related Agencies Appropriations Act for 1993.

[The information follows:]

Most of the proposed changes to section 310 clarify either amounts to be set side from distribution for administration and research programs or the programs to be exempted from the Federal-aid Highways obligation limitation. In addition to inserting the appropriate fiscal year wherever a date is specified, general changes include deleting the phrase "and highway safety construction" from the title of the Federal-aid Highways account. This phrase has not been part of the Federal-aid Highways title for several years, and is understood to be included within "Federal-aid Highways." The deletion of this phrase from the title corrects this oversight. All other proposed changes to section 310 are detailed below by subsection and paragraph.

(c)(3): Sections 5003 (Model Intermodal Transportation Plans), 6004 (Transportation Assistance Program), and 6005 (Applied Research and Technology Program) of Public Law 102-240 are deleted because they are part of the administrative takedown under section 104(a) of title 23 and therefore are already included as "amounts authorized for administrative expenses" in the first line of this subsection. Section 6001 (Research and Technology Program—SHRP Implementation and the Eisenhower Transportation Fellowships) of Public Law 102-240 also should be deleted for the same reason. The deletion of this section in FHWA's fiscal year 1994 budget submission inadvertently was not proposed. To maintain consistency, the Congress should delete section 6001 if it decides to delete sections 5003, 6004, and 6005 as proposed in the budget. These deletions would simplify section 310 by eliminating unnecessary duplication.

(c)(3): The proposed deletion of "$6,800,000 for section 6006 of Public Law 102-240, not more than $2,400,000 for section 6015 of Public Law 102-240, * * *" affects funding for the Bureau of Transportation Statistics (BTS) and the Border Crossings Study, respectively. This phrase limited funding for BTS to $6.8 million and the Border Crossings Study to $2.4 million in fiscal year 1993. For fiscal year 1994, we insert section 6006 to continue funding for BTS as a set-aside from Federal-aid Highways under this subsection, but we do not specify a limiting amount. This change will allow BTS to be funded as needed. The ISTEA authorized $15 million for this program in fiscal year 1994. The Border Crossings Study will be completed by the end of fiscal year 1993 and will not require funding in fiscal year 1994. The ISTEA authorized $2.4 million for this program in fiscal year 1993.

(c)(3): We propose a new funding level for section 5002 of Public Law 102–240, the Office of Intermodalism. The fiscal year 1993 level of $750,000 is deleted, and the proposed fiscal year 1994 level of $1,107,124 is inserted.

(c)(3): The proposed deletion of "and $200,000 for the Commission to Promote Investment in America's Infrastructure authorized by section 1081 of Public Law 102–240," eliminates funding for this commission which will have completed its tasks by fiscal year 1994 and not require additional funding.

(c)(3): The insertion of $15,000,000 in place of $7,500,000 for section 1302(d) of the Symms National Recreational Trails Act of 1991 doubles the Federal-aid Highways set-aside to fund the National Recreational Trails Program in fiscal year 1994.

(c)(3): The deletion of the phrases "section 1081 of Public Law 102–240," and "section 6015 of Public Law 102–240," at the end of this paragraph is consistent with previous deletions which eliminate finding for the Infrastructure Investment Commission and the Border Crossings Study for fiscal year 1994.

(d): The following sections of Public Law 102–240 are inserted to explicitly identify obligations for programs that are exempt from the Federal-aid Highways obligation limitation: 1061, Uniform Traffic Control Devices; 1109, Infrastructure Documentary; 4008, International Registration Plan and Fuel Tax Agreement (working group expenses and grants); 6023(b)(8), Howard Transportation Information Center; and 6023(b)(10), National Center for Advanced Transportation Technology. The addition of Public Law 102–240 sections 1061, 1109, 6023(b)(8), and 6023(b)(10) completes the list of ISTEA demonstration projects contained in this paragraph that are exempt from the Federal-aid Highways obligation limitation. The addition of Public Law 102–240 section 4008 clarifies the exempt status of any obligations that might occur in fiscal year 1994 from funds made available in fiscal year 1992 for these programs. The ISTEA authorized a total of $6 million for section 4008 programs in fiscal year 1992, and specifically subjected authorized amounts to the fiscal year 1992 Federal-aid Highways obligation limitation. The ISTEA authorized amounts for subsequent years from sums made available under section 404 of the Surface Transportation Assistance Act of 1982, hence subject to the Motor Carrier Safety Assistant Program limitation rather than the Federal-aid Highways limitation. Therefore, unobligated section 4008 funds remaining from fiscal year 1992 are exempt from the Federal-aid Highways obligation limitation in fiscal year 1993 and fiscal year 1994.

(d): The reference to Public Law 99–591 is deleted since Public Law 99–500, which is also cited in this paragraph, contains the same information for FHWA. Public Law 99–500 became law on October 18, 1986, when the President signed H.J. Res. 738. It was later discovered that H.J. Res. 738 had not been properly enrolled in that a small number of paragraphs of text were omitted due to clerical error. Therefore, the President subsequently signed the properly enrolled H.J. Res. 738 on October 30, 1986, which became Public Law 99–591. The citation of both of these laws in this paragraph is unnecessary. The Congress may wish to delete Public Law 99–500 instead of Public Law 99–591 to keep the latest "version."

(d): The insertion of the new provision (repeated below for expediency) at the end of this paragraph extends the first-quarter limitation of 15% of obligations to programs currently exempt from the Federal-aid Highways obligation limitation, except for Emergency Relief. Thus, the language (existing plus proposed changes) which immediately precedes this new provision and specifically identifies the program obligations to be exempted from the Federal-aid Highways obligation limitation, is followed exactly. The amount of $302,551,350 represents 15% of the total amount of exempt obligations (minus $100,000,000 for Emergency Relief) estimated for fiscal year 1994.

New provision: *Provided*, That during the period October 1 through December 31, 1993, the aggregate amount of obligations under section 157 of title 23, United States Code, for projects covered under section 147 of the Surface Transportation Assistance Act of 1978, section 9 of the Federal-Aid Highways Act of 1981, sections 131(b), 131(j), and 404 of Public Law 97–424, sections 1061, 1103 through 1109, 4008, and 6023(b)(8) and 6023(b)(10) of Public Law 102–240, for projects authorized by Public Law 99–500 and Public Law 100–202, or for projects covered under subsections 1499(b) and (c) of Public Law 100–17 shall not exceed $302,551,350.

MOTOR CARRIER RESEARCH AND DEVELOPMENT

Mr. McDADE. I note that the appropriation request for Office of Motor Carrier research and development is proposed for $7.7 million, an increase of $5.2 million over the last few years. How do you justify this increase for R&D activities when fatalities have been declining and the productivity of the OMC has also been lower in recent years?

[The information follows:]

While fatality rates have been declining, they are still unacceptable. Reducing them and improving safety requires research to assess new technologies, evaluate commercial drivers and vehicles, perform specific tests, and supply accurate and timely data. Also, research offers the opportunity for productivity improvements by generating more effective technologies and procedures to improve compliance and industry efficiency.

In FY 1994 on-going projects account for approximate $3 million. These projects include:

Research on driver fatigue, specifically with regard to appropriate rest and recovery needs of commercial motor vehicle drivers;

Examining current driver medical qualifications and their implications on the driver waiver program;

Continuing the zero-based review to identify the most effective performance-based regulations for motor carrier safety;

Working with NHTSA to evaluate the operating characteristics of longer combination vehicles; and

Enhancements to and quality control of SAFETYNET and MCMIS.

New research in FY 1994 will total $4.7 million. Major new projects include:

Research to assess medical examiner training needs, develop requirements for a national medical advisory board on motor carrier issues, and implementation of State-based medical certification procedures;

Evaluation of CDL effectiveness and benefits;

Evaluation of HAZMAT cargo tank performance;

Validation of simulator for commercial driver training, testing and licensing;

New bus research assessing training needs for driver and mechanics, and evaluating potential vehicle maintenance improvements;

Carrier technical assistance in meeting the requirements of the IRP and IFTA;

Driving simulator for CDL training, testing and licensing; and

Examine the feasibility of using GIS technology to more efficiently allocate Federal staff and funds relative to motor carriers location and safety performance.

IVHS TRANSFER TO NHTSA

Mr. McDade. Part of the IVHS proposal includes a transfer of $9 million to NHTSA. Does this request indicate or suggest that a unified budget should be provided for IVHS so that the program can be viewed in its entirety?

[The information follows:]

From a program perspective, there would certainly be advantages to presenting a unified budget for the IVHS program. As you know, IVHS activities are now sponsored by the FHWA, the FTA and the NHTSA within the DOT. FHWA and NHTSA submit separate budget requests, and FTA funds IVHS activities out of their R&D budget. The program activities funded out of these budgets are well coordinated in the DOT through the existing IVHS Working Group and Coordinating Committee structure. The IVHS National Program Plan and the DOT element of that plan will present a unified IVHS program built around user services that will cross public/private and DOT agency boundaries.

The response to Question #8 discusses the possibility of establishing an IVHS program office within the DOT that would be responsible for developing a unified IVHS budget. This matter is currently under discussion.

MANAGEMENT SUPPORT OF IVHS

Mr. McDade. The FHWA request includes an increase of $70 million for IVHS. Does the Department plan to request any additional FTE to manage the IVHS program in FY 1994? How does the Department plan to manage such a significant increase in this program if it does not plan to hire additional personnel? Does the Department plan to contract out for management support? If so, what is the Department's estimate of total costs for contracting out management support of IVHS? And wouldn't it be cheaper to keep it inside and reduce the amount for the program to accommodate additional FTE within the Department?

[The information follows:]

President Clinton's initiative to reduce Federal government administrative costs through employment attrition prevents the FHWA from requesting additional FTE. We are concerned about how we will effectively manage an expanded IVHS program, and are in the process of considering several possibilities. These will likely involve using staff from other elements of FHWA to manage certain parts of the program. For example, we will continue to use our field office staff to manage individual operational test projects. We are also using staff at the Volpe National Transportation Systems Center to manage just over $1 million of IVHS program contracts in the areas of benefits estimation, institutional issues and public acceptance.

For the remaining two option years, our MITRE program management and systems engineering support contract will run at a level of 348 technical staff-months per year at a cost of approximately $4.9 million per year. For fiscal years 1994 and 1995, our agreement with the Jet Propulsion Laboratories includes 48 technical staff-months of effort at a cost of approximately $0.7 million per year for supporting technical management of the system architecture development contracts. We have an agreement with the Oak Ridge National Laboratory to support management of advanced traffic management research and development activities that is running at a level of $0.4 million per year. We also have a contract with an 8A firm to provide support in areas such as information management that is also running at a level of about 40 technical staff-months and $0.4 million per year.

We would prefer to have additional staff, but believe we have been successful in advancing the program through these support contracts. We will likely need to increase the level of management support to keep pace with the expansion of the program. We are in the process of considering our options.

The subject of whether it is cheaper to use Federal government staff or privatize services has been the subject of much debate over the years. We take no position on the issue.

IVHS—COMMERCIAL VEHICLE PROJECT

Mr. McDade. The request for IVHS includes $10 million for the commercial vehicle project. It is the committee's understanding that the network and the I–80 project is more of a concept at this time, not a project; that no agreements have been made with the states. Please provide an update on the status of the I–80 project or the network. What can DOT do to assure the committee that this request is not an appropriation for "wine before its time"?

[The information follows:]

The goal of the commercial vehicle operations (CVO) portion of the IVHS program is for trucks to travel like cars in this country, without having to stop in each state for weight, credential or safety inspections. Instead, these items will be checked by advanced technologies as the truck moves down the highway at prevailing speeds.

The newest initiative in the CVO area will be the I–80/National Commercial Vehicle Program, focusing along I–80 states from New York to California. The I–80/National Truck Network Program, and other Nation-wide CVO initiatives, will build on the progress and experience of both the HELP/Crescent and Advantage I-75 operational tests. The primary goals for I–80/National Commercial Vehicle Program are: (1) to increase industry and State productivity through the electronic transfer of information about weights and credentials that will allow properly-equipped and compliant vehicles to bypass weigh stations and ports of entry at mainline speeds, and (2) to improve safety by electronically checking driver and vehicle compliance with safety requirements at mainline speeds so that vehicles do not have to stop for roadside safety inspections.

Electronic information exchange is an extremely important component of the I-80/National Commercial Vehicle Program because it eliminates the need to stop a truck to obtain information about the vehicle and the driver. Both intrastate and interstate agencies and motor carrier companies will use this information for administration and fleet management, respectively. This ability to electronically exchange information will enable agencies to greatly reduce the paperwork burden for motor carriers.

Currently, 47 states, with seed money provided by the US DOT, are conducting institutional studies to identify ways to overcome barriers to implementation of IVHS/CVO. These studies are seen as the first step toward formation of the National Commercial Vehicle Program. Both the States (as can be seen by the number of states performing the institutional studies) and the private sector have expressed significant interest in the network and I–80. The US DOT also is meeting (has met) with the states along I–80 on May 5 and 6, 1993, to discuss their role in the development of the components for the national system. This first meeting will include limited representation from each state and will serve to better explain the National Commercial Vehicle Program and I–80 and to receive initial feedback from the states. A second, expanded meeting will include non-traditional representation and will further define the I–80 project. We see their role as being the first states to deploy the system as well as testing any new technology. The I–80 initiative will build upon and bring together HELP/Crescent and Advantage I–75 into the formation of the beginning of this network.

The $10 million is not intended for a single project, but a multitude of research, development and operational test projects. These various efforts, when combined, will create a national commercial vehicle system leading to improved safety and productivity. Some efforts will be conducted by US DOT through contracting procedures while others will be performed by the states, but the states and the US DOT must work in partnership to achieve the national system.

MOTOR CARRIER FTE REDUCTION

Mr. McDade. The Department plans to reduce FTE for OMC by 17 and to increase the FTE for the FRA by 18 FTE. This request seems inconsistent with the number of deaths that occur on the highways, particularly with respect to trucks and the number of deaths of rail passengers. Please justify this seemingly inconsistent proposal.

[The information follows:]

The reduction of 17 full-time equivalent workyears for the FY 1994 motor carrier program represents the pro-rata share of the FHWA's agency-wide FTE reduction.

EXEMPT PROGRAMS—FIRST QUARTER OBLIGATION CONTROLS

Mr. McDade. FHWA has requested that the first-quarter limitation on obligations at 15 percent for the basic Federal-aid Highways programs (subject to the overall Federal-aid Highways obligation limitation) be extended to the Minimum Allocation program and the authorized highway demonstration projects (and other programs currently exempt from the obligation limitation, except for Emergency Relief). What is the reason for this proposal and how much is "saved" in outlays? What is the average first-quarter outlay rate for Minimum Allocation and the highway demos?

[The information follows:]

The purpose of limiting first-quarter obligations for Federal-aid Highways programs is to provide an indirect control over resulting outlays. We propose to limit obligations for Minimum Allocation, authorized demonstration projects, and other programs exempt from the overall Federal-aid Highways obligation limitation (except for Emergency Relief) to 15 percent of the estimated total amount of obligations for these programs in FY 1994. Obligations would not be controlled beyond the first quarter, and the estimated total amount of obligations for these programs in FY 1994 would not be affected.

The extension of the 15 percent first-quarter obligation control to exempt programs is consistent with the proposed continuation of the 15 percent first-quarter obligation control currently imposed on the basic Federal-aid Highways programs subject to the overall obligation limitation. For FY 1993, the Congress reduced this first-quarter control on basic Federal-aid Highways program obligations from 25 percent to 15 percent.

The following two scenarios show outlay savings that could result depending on various obligation assumptions. We estimate that the total amount of obligations for exempt programs (excluding Emergency Relief) will be $2.017 billion in FY 1994. However, actual month-by-month obligations will affect this total as well as any outlay savings resulting from a first-quarter obligation control, as shown below:

Scenario 1—"Normal" Case: Exempt programs are obligated evenly throughout the year without the 15 percent first-quarter control (1/12 of total estimated obligations occur each month). With the limitation, 5 percent of the total estimated obligations occur in each of the first 3 months, 18.3 percent (1/12 plus 10 percent) in the "catch-up" month of January, and 8.3 percent (1/12) in the remaining months. Outlay savings of about $21 million would result.

Scenario 2—"Worst" Case: Exempt programs are obligated entirely at the beginning of the fiscal year in October. With the limitation, 15 percent of the total estimated obligations occur in October, none in November and December, 85 percent in the "catch-up" month of January, and none in the remaining months. Outlay savings of about $270 million would result.

IVHS—STRENGTHENING MANAGEMENT OF THE PROGRAM

Mr. McDade. The Administration proposed $214 million for IVHS activities in FY 1994. If the national IVHS program receives additional funds, how does the FHWA propose to strengthen the Department's management of this major undertaking?

Is there a need for an IVHS program office within the Office of the Administrator of the FHWA? Or, is there a need perhaps to transfer a few existing positions from other parts of FHWA to help manage and conduct a significantly expanded IVHS program?

[The information follows:]

In late 1992, the DOT commissioned an outside group of management experts to review the management of the IVHS program. This review was prompted, in part, by the greatly expanded funding of the IVHS program and its inherent intermodal nature. The review team recognized that the current IVHS management structure, which evolved as a matter of necessity at the outset of the program, is not adequate as IVHS grows and matures. The report recommends that the Department establish a strong joint IVHS program office that would have approval authority over all IVHS program plans, budget requests, and expenditures. Even with a new IVHS program office, however, the breadth and diversity of the IVHS program will continue to require that a variety of offices, both within and outside of FHWA, be actively involved. Thus the report also recommends that the new IVHS program office must have sufficient organizational stature, whether it is located within FHWA or elsewhere in the Department, to motivate program execution by others within DOT and to enlist the constructive support of other federal agencies. We are currently considering how to best implement these and other recommendations from this management review.

IVHS—EARMARKING FOR OPERATIONAL TESTS

Mr. McDade. How is the FHWA interpreting the language used in the conference report on the FY 1993 DOT appropriations act that funding "up to" the specific amounts for earmarked IVHS operational tests? Does this language provide a sufficient degree of flexibility for FHWA?

[The information follows:]

We do appreciate the efforts made by the Conference Committee to provide us with increased flexibility through the inclusion of this language. In working with State-level project representatives during the past months, we have expressed our willingness to honor the actual amounts in the report, especially when project features would truly contribute to advancing the national IVHS program.

In some cases, however, these projects are not true operational tests of new IVHS technology or institutional arrangements. The funds are being used for activities which are eligible for regular Federal-aid funding or are not appropriate IVHS expenditures.

Where we have discussed project concepts and amounts with Congressional staff representatives, the original project purposes and amounts as listed in the report have been strongly supported by these staff members. In approving project obligations, we have accepted these further discussions as evidence of Congressional intent to provide the full amount to the location. FHWA flexibility in use of the funds is not feasible under these circumstances.

IVHS—LANGUAGE TO LEVERAGE FEDERAL DOLLARS

Mr. McDade. Has this language enabled FHWA to leverage the Federal dollars used to advance IVHS?

[The information follows:]

The language does support our efforts to achieve projects which would effectively advance the IVHS national program, especially in working with representatives of corridor-based locations identified in the report. However, as noted in the previous response, several of the projects are not true IVHS operational tests which advance national objectives, and in fact would be eligible for regular Federal-aid funding from state-apportioned categories. In these cases we have attempted to mold these expenditures into effective IVHS projects, but have experienced only limited success. In most cases, project sponsors have an expectation that FHWA has been directed to approve specific project features through the earmark process, and this has been reinforced by Congressional staff discussions. We find it difficult to exercise flexibility under these circumstances.

IVHS—ENCOURAGEMENT OF STATES TO USE STP FUNDS

Mr. McDade. What is the FHWA doing to encourage the States to use their surface transportation program funds to deploy IVHS projects?

[The information follows:]

FHWA uses a variety of ways to encourage the implementation of IVHS. Some of the successful methods have been:

The benefits of advanced technology in mitigating congestion have been well documented. The IVHS program and its implementation is explained during speeches and presentations at meetings and conferences such as those held by the National Incident Management Coalition, the Transportation Research Board, the Institute of Transportation Engineers, National Highway Institute training courses, etc. A wide variety of influential leaders, policy makers, traffic engineers, enforcement, fire and other officials usually attend from the metropolitan areas where they are held, assuring that the information is widely disseminated.

IVHS benefits have been widely circulated through technical associations such as the Institute of Transportation Engineers, Transportation Research Board, etc.

IVHS Specialists assigned to FHWA region and division offices provide "marketing" of IVHS technologies, resulting in a myriad of potential IVHS projects throughout the country.

Through the Federal Register, the FHWA actively solicits projects for comprehensive areawide and corridor planning for the future implementation of IVHS services. This program is referred to as the Early Deployment Program and approximately 20 studies have been funded to date.

Through technology transfer efforts, the FHWA actively promotes awareness and benefits of IVHS to all areas, including large and small metropolitan areas as well as rural jurisdictions. Demonstration projects acquaint States and local areas with the application of new procedures and technologies, providing practitioners with hands-on experience using selected hardware, software, techniques, etc. Currently, two of the most successful demonstration projects are (1) Demonstration Project No. 86 on Incident Management, and (2) Demonstration Project No. 93 on Traffic Control Hardware and Software.

Grant programs are supported jointly with the Federal Transit Administration to demonstrate and provide seed money for innovative, intermodal projects. Many of the projects funded under this program are IVHS-related and include Videotext, Telecommuting, Advanced Vehicle Identification System, and Advanced Traveler Information Systems. The evaluations and project reports from these demonstrations will be made available to the State and local governments to help guide their thinking on the applications of advance technology.

IVHS—COST SHARING OF NON-FEDERAL FUNDS

Mr. McDADE. Please specify the amount of cost sharing of non-Federal funds that have been matched for each of the IVHS projects receiving Federal funding. What percent of estimated total project costs is the non-Federal portion of each project?

[The information follows:]

The components of the IVHS program which are developed primarily through cost-share arrangements include operational tests, early deployment planning studies, and the Federal Highway Administration (FHWA)/Federal Transit Administration (FTA) Joint Operational Action Program to Improve Mobility.

Attached is a chart on operational tests providing estimated Federal and non-Federal funding, total funds for a project, and a percent of estimated total project cost attributed to the non-Federal portion. The FHWA generally requires a 20% match for all IVHS operational tests.

There are currently seventeen early deployment planning studies underway. The FHWA requires a 20% match from participants in this program.

In 1991, $1.5 million was made available for the joint FHWA/FTA mobility project. Forty proposals were received and 12 projects selected nationwide. In 1992, another $1.5 million was made available. Forty-two proposals were received and 10 projects selected nationwide. All the projects represent advancements in technology and management for intermodal operations. The federal funds supported 50% of the total project costs for the two-year demonstration period.

The IVHS research and development program is primarily managed using Federal funds only. Out of the thirty-one projects which have been obligated or funded, there are four exceptions: (1) a project to design support systems for advanced traffic management control centers which has a 4% non-Federal match, (2) a project to research real-time traffic adaptive control for IVHS which has a 35% non-Federal match, (3) a project to research rural applications of advanced traveler information systems which has a 15% match, and (4) certain projects under California's IVHS R&D program, PATH—of those PATH projects where the FHWA has provided funding, there has been a 31% non-Federal match.

Estimated Federal and Non-Federal Funding for IVHS Operational Tests

PROJECT	FEDERAL IVHS FUNDING	NON-IVHS FUNDING	TOTAL FUNDING	PERCENT NON-IVHS FUNDING
ADVANCE (Chicago, Illinois)	$ 20,000,000	$ 20,000,000	$ 40,000,000	50%
Advantage I-75 (multi-state)	3,500,000	7,458,000	10,958,000	68%
Ann Arbor Smart Bus (Michigan)	1,980,000	87,500	2,067,500	4%
Bellevue Smart Traveler (Seattle, Washington)	144,000	0	144,000	0%
Boston Smartraveler	1,515,000	1,535,000	3,050,000	50%
California Smart Traveler	355,000	1,000,000	1,355,000	74%
Connecticut Freeway ATMS (through FY '92 only)	350,000	1,125,000	1,375,000	75%
CTA Smart Bus (Chicago, Illinois)	490,000	3,150,000	3,640,000	87%
Detroit Transportation Center Transit Information	50,000	50,000	100,000	50%
DIRECT (Michigan) (through FY '92 only)	2,500,000	2,500,000	5,000,000	50%
Fast-Trac (Michigan) (through FY '92 only)	10,000,000	3,831,000	13,831,000	28%
Guidestar	11,000,000	2,750,000	13,750,000	20%
'ELP/Crescent (mulistate)	5,850,000	15,150,000	21,000,000	72%
Houston Smart Traveler (through FY '92 only)	2,500,000	2,500,000	5,000,000	50%
MTA Smart Bus (Baltimore)	2,000,000	500,000	2,500,000	20%
Norfolk Mobility Manager (Virginia)	500,000	100,000	$600,000	17%
PASS (Oregon)	350,000	222,000	572,000	39%
Pathfinder (California)	1,000,000	1,500,000	2,500,000	60%
Roadway Powered Electric Vehicle (Phase II, only) (California)	1,500,000	6,150,000	7,650,000	80%
Rogue Valley Mobility Manager (Oregon)	380,000	80,000	460,000	17%
RTD Smart Bus (Denver)	8,320,000	2,080,000	10,400,000	20%
Satellite Communications Feasibility (Philadelphia)	2,200,000	2,200,000	4,400,000	50%
SMART Corridor (through FY '92 only) (California)	1,100,000	45,900,000	47,000,000	98%
TRANSCOM (NY/NJ/CT)	11,400,000	2,975,000	14,375,000	21%
Travel-Aid (Washington State)	1,828,525	3,157,766	4,986,291	63%
TravTek (Fl	3,000,000	9,000,000	12,000,000	75%
Twin Cities Smart Traveler (Preliminary Study nly)	40,000	0	40,000	0%
TOTAL	$ 93,852,525	$135,001,266	$228,753,791	59%

IVHS—UNOBLIGATED BALANCES OF CONGRESSIONAL EARMARKED PROJECTS

Mr. McDade. For each of the IVHS projects receiving funds earmarked by the Congress, please specify which projects have unobligated balances and are holding those balances and not allocating funds on a timely basis. What would FHWA suggest be done about this situation so that the national IVHS project may be accelerated?

[The information follows:]

A number of projects currently have unobligated balances from FY 1992 and 1993 earmarks, but we expect to provide funds to most of these projects by the end of FY 1993. The following projects are expected to have unobligated balances beyond FY 1993:

Northeast Corridor (MD to CT)—We expect to obligate a large portion of these funds in FY 1993, but some carryover funds may be obligated early in FY 1994, because the I–95 Corridor Coalition Business Plan has only recently been finalized and adopted.

Miami-Ft. Lauderdale—A consultant contract for creation of an Intelligent Corridor System is actively underway, and will be completed early in FY 1994. Project concepts for use of the earmarked funds will be a product of this study.

Guidestar, MN—The funds earmarked in FY 1992 are sufficient to support 1993 activities; FY 1993 amounts will not be utilized.

Sutter County, CA—We have not received any indications of the scope of IVHS activities to be included in this project, and we also may have legal problems in carrying out this earmark.

New Jersey (Police Communications Center)—We have not received any details on the planned patrol center, and we may have legal problems carrying out this earmark.

Southern State Parkway, NY—Project officials have not developed and submitted a program for use of the $34 million now being reserved from FY 1992 and 1993 earmarks.

FHWA believes that the funds provided should be put into use to advance the IVHS program in the most efficient and effective manner. Reserving funds for projects which are not ready to proceed and/or do not contribute to national IVHS program goals detracts from our ability to achieve the IVHS vision which Congress has established in a timely manner. Funds being reserved in this manner should be released for use by other IVHS projects and activities which are ready to proceed.

IVHS—PROGRAM PLAN

Mr. McDade. I understand that a detailed IVHS program plan is to be ready this fall. Please tell the committee more about the contents of this plan and progress towards its completion.

[The information follows:]

The National IVHS Program Plan will provide the detailed "road map" required to both plan and track progress toward deploying user services for each segment of the IVHS program. The Program Plan will describe the systematic development of a set of IVHS services, and lay out the research, development, testing and deployment guideline activities that need to be sponsored to reach the point of deployment of that service. The Program Plan will also relate how the development and eventual deployment of each service relates to other program initiatives such as system architecture, studies of institutional issues, and technology transfer activities, as well as relationships to activities in the private sector and other government programs. A first version of the National IVHS Program Plan is currently being prepared by the DOT, in cooperation with IVHS AMERICA, and is scheduled for completion in September, 1993.

IVHS—DEPLOYMENT PLAN

Mr. McDade. In the DOT IVHS Strategic Plan, you describe the preparation of an IVHS Deployment Plan. Please tell us more about the plan, when it will be ready, and how it will be used by the Department to advance IVHS deployment.

[The information follows:]

The IVHS Deployment Plan is currently under development by the DOT in cooperation with IVHS AMERICA. The Plan will document ongoing activities pertaining to IVHS deployment, provide recommendations for near-term activities addressing both IVHS as a whole and as individual user services, and provide a mechanism to plan for long-term activities. The IVHS Deployment Plan will be used to monitor and manage a variety of deployment activities, identify priority areas where additional deployment activity is needed, and systematically allocate resources to priority deployment activities. The Deployment Plan will be integrated into the National IVHS Program Plan which is currently under development.

IVHS—NONTECHNICAL CONSTRAINTS AND BARRIERS

Mr. McDade. Section 6054 of the ISTEA requires a report to Congress on the nontechnical constraints and barriers to implementation of IVHS. That report is due I believe in December. Please describe what FHWA and the Department has underway to address some of these nontechnical barriers.

[The information follows:]

The Department of Transportation has developed an outline for the Nontechnical Constraints Report. The report will be developed through the cooperative efforts of different administrations and offices within the Department. The Office of the Secretary's Office of Counsel has already established communications with the Justice Department on developing the Nontechnical Constraints Report. In addition, announcements were published in the Legal Times and the Commerce Business Daily soliciting proposals to prepare legal research papers on IVHS-related issues on tort and product liability, antitrust, privacy, patent and other legal issues. The Department has also published a request for information (RFI) in the Federal Register on IVHS nontechnical issues.

IVHS—NATIONAL OPEN ARCHITECTURE

Mr. McDade. One of the milestones identified in the DOT Strategic Plan is to complete development of a national, open IVHS architecture. Please tell us what progress has been made towards achieving this objective, and how you plan to ensure that an IVHS architecture is in fact open and acceptable to the broad IVHS community.

[The information follows:]

On April 23, proposals were received in response to the Request for Proposals (RFP) issued on March 9 for development of an open national IVHS architecture. A number of major U.S. technology firms are involved in the responses. Multiple contract awards are expected to take place late in the summer. By pursuing a multiple team approach to define the architecture, we are minimizing the risk that the resulting architecture is one that is developed around a particular company's products. In addition, we have acquired the services of the Jet Propulsion Laboratory to oversee the technical development effort and to ensure that the resulting architecture is in fact open.

To ensure broad IVHS community acceptance, DOT is currently working with IVHS AMERICA on a proactive consensus building effort that will proceed in parallel with the technical development effort. This consensus building effort will establish a forum by which those affected by the IVHS architecture can provide their comments and concerns. By addressing issues early and throughout the development process, we expect to achieve wide community acceptance of the final product.

IVHS—TRAVTEK OPERATIONAL TEST PROJECT

Mr. McDade. Please describe how the TravTek operational test project was perceived and received by the public and share with the committee any observations or preliminary results.

[The information follows:]

The evaluation phase of the TravTek operational test ended on March 31, 1993. Analysis of the evaluation data collected over the one-year operational period will continue for the remainder of the calendar year. Reports and results from this evaluation should be available in late 1993. Preliminary results from users' questionnaires and interviews have shown that the TravTek experience was very well received. There was no perception of a negative impact on safety, but rather, users indicated that they believed they drove in a safer manner. Users generally believed that the system saved them time, and some local users claimed savings of 10 hours over two months of use. These preliminary results also verified that users might be willing to pay nearly $1000 for an in-vehicle device such as TravTek.

CDL—FEDERAL STANDARDS VS. STATE LICENSING SYSTEMS

Mr. McDade. FHWA has been conducting pilot projects in several States to examine the feasibility of incorporating compliance with Federal driver medical qualification standards into the State licensing systems. What are the initial results of these pilot projects? What is the time schedule for deciding whether to use this approach nationwide?

[The information follows:]

Three prototype State medical review programs, in Alabama, Arizona, and Utah, are now being pilot tested; three more, in Indiana, Missouri, and North Carolina, are expected to begin this summer. Each pilot will run for 1 year and tests a specific set of procedures to assure, within the commercial driver's license (CDL) process that drivers meet the FHWA medical standards. Drivers who are subject to these standards and do not meet them are not issued a CDL.

As of April 30, the medical qualifications of over 20,000 commercial drivers have been checked by the three States that have begun pilot projects. Preliminary data suggests that less than 1 percent of drivers have been prevented from obtaining CDLs due to an inability to meet the medical standards.

FHWA expects to publish an Advanced Notice of Proposed Rulemaking (ANPRM) this summer, to inform the public about the program and request information for development of a proposed regulation. Based on the results of the pilots and comments to the ANPRM, FHWA plans to issue a Notice of Proposed Rulemaking (NPRM) to incorporate driver compliance with the FHWA medical standards into the State CDL process. FHWA expects to publish the NPRM next year after the pilots are completed. A decision concerning a final rule will be made pending comments to the NPRM.

MOTOR CARRIER ROADSIDE DRUG TEST RESULTS

Mr. McDade. Is the OMC advising motor carriers of their drivers' positive roadside drug test results?

[The information follows:]

The random roadside drug and alcohol program is being administered under the legal authority of the four States involved: Nebraska, Utah, Minnesota, and New Jersey. In the event of a positive drug test, the States of Nebraska and Utah send written notice to the employing motor carrier that the driver may be medically unqualified pursuant to the provisions of 49 CFR 391.41(b)(12). The motor carrier is not directed to take any specific action with regard to the driver.

PUBLIC MOTORISTS VS. TRUCK-RELATED ACCIDENTS

Mr. McDade. The motoring public causes a large percentage of truck-related accidents. Other than the $350,000 that is set aside in ISTEA to educate the public about sharing the road with trucks, what is OMC doing to encourage States to spend money in this area? Have you issued a memorandum or any guidelines to the States on this topic?

[The information follows:]

In FY 1992 and 1993, the State of Maryland was awarded a MCSAP grant to develop and implement a national public service campaign that will include TV, radio, print and other creative public outreach strategies to educate the motoring public on how to share the road safely with commercial motor vehicles. FHWA will encourage States to spend money to support this program and use campaign materials produced by it.

FHWA also encourages States to devote time and effort to conduct supplementary training to students and the general public in conjunction with school driver education programs and at county and local fairs. The training entails working with a cooperating commercial motor carrier. A brief "Sharing the Road" film is shown describing proper driving procedures. Students complete a questionnaire after the film. A truck driver later reinforces the data to students by drawing from real-life experiences. Students are also given the opportunity to sit in the cab of an 18-wheeler to see and imagine differences between driving an automobile and a large truck.

Funding for these Regional projects includes only the salaries of FHWA personnel. Films used were provided at no cost and were produced by ATA and Professional Drivers of America, Inc. Participating carriers donate their equipment and personnel to the project as "community goodwill."

SHARING THE ROAD WITH TRUCKS—PUBLIC EDUCATION

Mr. McDade. Besides involving the states, what other OMC activities are underway to help educate the public about sharing the road? How much of the OMC budget is used to provide information on these activities?

[The information follows:]

In FY 1992 and 1993, the State of Maryland was awarded a MCSAP grant to develop and implement a national public service campaign that will include TV, radio, print and other creative public outreach strategies to educate the motoring public on how to share the road safety with commercial motor vehicles. Maryland will provide the States a distribution plan and guidance to cost effectively implement the campaign. Maryland will also build public/private partnerships by involving organizations such as safety groups, private corporations, industry associations, and various civic groups in communicating the campaign message.

In addition, three Regional offices are conducting supplementary training to students and the general public in conjunction with school driver education programs and at country and local fairs. The training entails working with a cooperating commercial motor carrier. A brief "Sharing the Road" film is shown describing proper driving procedures. Students complete a questionnaire after the film. A truck driver later reinforces the data to students by drawing from real-life experiences. Students are also given the opportunity to sit in the cab of an 18-wheeler to see and imagine differences between driving an automobile and a large truck.

Funding for these Regional projects includes only the salaries of FHWA provided at no cost and were produced by ATA and Professional Drivers of America, Inc. Participating carriers donate their equipment and personnel to the project as "community goodwill."

MOTOR CARRIER REQUEST FOR TRAVEL FUNDS

Mr. McDade. This committee has reduced past requests for travel submitted by the Office of Motor Carriers. What is your planned travel for FY 1994?

[The information follows:]

The overall travel request for FY 1994 ($5,087,000) includes a 2.7 percent increase compared to FY 1993 estimated expenses ($4, 953,000), reflecting inflation.

The majority of planned travel will include carrier visits to conduct safety audits. In addition, travel costs will be incurred to implement the North American Free Trade Agreement, provide assistance to FHWA's Intelligent Vehicle Highway System activities, provide assistance to State MCSAP officials, conducting training of State and Federal enforcement personnel, and conduct Regional motor carrier meetings to enhance program effectiveness.

MOTOR CARRIER—WILLIAMSBURG MEETING

Mr. McDade. In September of 1992 many clerical staff of the Office of Motor Carriers travelled to a retreat in Williamsburg, VA. What was the purpose of this retreat? Why was it necessary to have the meeting in Williamsburg? What was the estimated cost of the retreat? Are there any similar meetings or retreats planned in FY 1994?

[The information follows:]

The purpose of the September 1992 professional support staff retreat was to learn and promote team building among the support staff, enhance skills in dealing with the public and to promote discussion among the support staff in the changing role of the professional secretary due to office automation. Several meeting locations were considered prior to choosing Williamsburg which offered the most cost effective site. The travel and training costs for this retreat were $9,000. There are no similar meetings planned for FY 1994.

MOTOR CARRIER—RESEARCH REPORTS

Mr. McDade. Please provide a list of all reports that have resulted from OMC research during the last three fiscal years. Which of these reports have been entered in to the NTIS? Also please provide their NTIS identification numbers. If the reports were not entered into the NTIS, please explain why not?

[The information follows:]

The following list provides the names of the reports for which research has been completed and forwarded to NTIS. Explanations are provided for those reports not sent to the NTIS.

Office of Motor Carriers Contact Research Reports Available From National Technical Information Service

Title	*Accession No.*
Conference on Psychiatric Disorders and Commercial Drivers	PB91-236372/AS
Conference on Pulmonary/Respiratory Disorders and Commercial Drivers	PB91-236455/AS
Visual Disorders and Commercial Drivers	PB92-143015
Insulin Using Commercial Motor Vehicle Drivers	PB92-183003
Influence of Braking Strategies on Brake Temperatures in Mountain Descents	PB93-137032

"Hearing Disorders and Commercial Motor Vehicle Drivers" has been forwarded to NTIS. OM has not been advised of the accession number.

Review of the report "Enforcement of Hours-of-Service Regulations" disclosed the lack of available statistical results because the data collected was insufficient to provide reliable analysis.

Many of OMC's research projects are multi-year projects and will not result in a published report for several years. Others are used solely to augment analysis conducted by staff and are not considered for NTIS distribution.

MOTOR CARRIER—RESEARCH RESULTS VS. RULEMAKING PROCEEDINGS

Mr. McDade. How have these research results been used in your rulemaking proceedings?

[The information follows:]

A majority of the motor carrier research is designed to evaluate the current FMCSRs and determine, from the evidence obtained, if revisions are needed. Research study recommendations are used frequently to formulate Notice of Proposed Rulemaking (NPRMs). Typically, the NPRM preamble will discuss the scientific determinations and lay the groundwork for proposals of alternative standards or procedures for public comment.

Motor carrier regulations that have been based on research results include: new accident reporting guidelines, the NPRM on diabetes, vision ANPRM and waiver program, and revisions to braking standards. The current study on driver fatigue is expected to help determine if changes are needed to the current hours of service requirements.

TURNER FAIRBANK FACILITY—CURRENT CONDITIONS

Mr. McDade. Please provide a status report on the modernization of the Turner Fairbank facility, with special reference to the current conditions of the Fairbank Building.

[The information follows:]

The Fairbank Building was constructed in 1942. Although there have been renovations to the building over the years, there are still serious deficiencies in the building's systems. The heating and cooling systems are old, do not provide uniform temperatures within the building, and are very poor from an energy conservation standpoint. Much of the plumbing system is 50 years old and its efficiency has been seriously reduced due to corrosion. Since each laboratory and office area does not have its own electrical system it is very difficult and time consuming to locate and repair power failures.

A needs and asbestos survey, code and energy analysis and preliminary plans for renovation of the Fairbank Building were completed in 1992. the final report identified numerous code violations in the electrical, heating and plumbing systems and violations of the fire code with respect to building egress. Access to the building and rest rooms does not meet the requirements of the Americans with Disabilities Act. Asbestos was also found in a number of areas on all floors of the building. The energy analysis indicated that substantial energy saving could be obtained by replacing the existing windows, adding insulation in the attic and exterior walls, installing a new heating and air conditioning system and replacing the existing lighting fixtures.

The total estimated cost, based on a detailed cost estimate developed in 1992, is $6 million. Due to budget restrictions the construction work has been divided into three stages. Preparation of construction plans for Stages 1 and 2 is currently underway and will be completed by July, 1993. The Stage 1 construction contract will be awarded before the end of FY 1993. The Stage 2 construction contract is planned for early FY 1994.

Mr. McDade. Are there remaining handicap access, occupational and health safety issues, or energy conversion opportunities?

[The information follows:]

Yes. The Stage 1 construction (Funded with $1.94 million authorized by FY 1993) will include new heating, ventilating and air conditioning equipment, asbestos removal or containment, sprinkler system mains, rest rooms to comply with the Americans with Disabilities Act and renovation of six laboratories. This contract will be awarded in FY 1993. Stage 2 includes renovation of the elevator to provide handicap access to the second floor. Also, as each office area and laboratory in Stages 2 and 3 is renovated code violations will be corrected, the sprinkler system will be extended into those areas, new lighting and heating ducts installed and exterior walls insulated. The replacement windows and attic insulation and furring are included in the Stage 3 construction.

Mr. McDade. What are your estimates of the funds required to address these problems, and to what degree will the FY 1994 request of $950 thousands address these problems? Please detail and substantiate the basis for your cost estimates.

[The information follows:]

The FY 1994 funds will be used for the Stage 2 construction. The Stage 2 construction includes the renovation of two laboratories (Bituminous Mixtures and Pavement Binders) and the reconstruction of the elevator to serve the second floor.

The following is the estimated cost to address the above problems:

Item:	*Stage 2 (fiscal year 1994)*
Elevator	$139,000
Heating and Ventilating	217,000
Lighting	14,000
Insulation	15,000
Other Laboratory Improvements	537,000
Miscellaneous	28,000
Total	950,000

The cost estimates are based on detailed estimates developed in October 1992 by the architect and engineering firm.

Mr. McDade. What additional funds are necessary to mitigate asbestos hazards?

[The information follows:]

None. Asbestos removal and containment is included in the Stage 1 construction contract that will be awarded in FY 1993. The estimated cost is $341,000.

Mr. McDade. What is the total amount of funds needed to rectify the infrastructure at Turner Fairbank and what is the total amount of funds that you have received to date?

[The information follows:]

The total estimated cost to renovate the Fairbank Building is $6 million. An additional $2 million is needed for renovation of the Annex Building. This building was also constructed in 1942 in conjunction with the Fairbank Building.

Since FY 1983 we have received approximately $100,000 annually for alterations and repairs to the facilities at the Turner Fairbank Highway Research Center. These funds have been used for improvements to the mechanical equipment, replacement lighting and repairs to the buildings' systems.

The FY 1993 appropriation authorized $1.94 million for renovation of the Fairbank Building. These funds will be used for the Stage 1 construction. A contract for this work will be awarded this fiscal year.

COOPERATION BETWEEN TRUCK MANUFACTURERS AND HIGHWAY DESIGN COMMUNITIES

Mr. McDade. FHWA has successfully concluded some research in the area of how highway design affects truck safety. What are the accomplishments of this research and, more importantly, what is FHWA doing to ensure that the truck manufacturing and highway engineering design communities are cooperating to make the best use of this information?

[The information follows:]

The FHWA has completed and published the results of several studies dealing with the impact of large trucks on the design and operation of the highway network. For example, one study evaluated the adequacy of 16 highway design and operational criteria to adequately accommodate large trucks. Another study evaluated the impact of large trucks on the design and operation of interchanges.

The results of these and other research studies have been consolidated into an Institute of Transportation Engineers Informational Guide entitled, "Geometric Design and Operational Considerations for Trucks." This report, written for highway and traffic engineers contains information on truck dimensions and performance characteristics. The report provides details on the design of roadway elements, such as intersections, interchange ramps, and horizontal and vertical curves to adequately accommodate large trucks.

To improve truck safety on existing interchange ramps the FHWA in cooperation with the States of Maryland and Virginia is experimenting with Automatic Truck Warning Systems. Three of these systems have been designed and will be installed this year on ramps of the Capital Beltway in Virginia and Maryland. A fiber optic sign will display "Trucks Reduce Speed" when a truck is measured to be traveling too fast for the ramp as it exits the freeway.

Also, the FHWA has participated in recent national activities intended to assure close coordination between highway and trucking interests. Two national meetings on the subject of Highway/Commercial Vehicle Interface have been held and efforts are underway to assure good, long term coordination of these important interests. The principle current organizers of this activity are the Highway Users Federation and the American Association of State Highway and Transportation Officials.

Mr. McDade. Last year, FHWA indicated that it was going to conduct a personnel staffing analysis. What were the results of this study? Were any positions reassigned to different parts of FHWA as a result of this study?

[The information follows:]

This study has just begun. It was postponed until States had time to become familiar with program changes and changes in the level of Federal involvement included in ISTEA. A Task Force was established in April 1993, and the group has its first meeting April 19–21. They are developing an approach for assessing the allocation of staff in all parts of the agency. This study will last approximately 12 months.

STATUS OF DEFINING NHS

Mr. McDade. Please provide an update and status on FHWA's efforts in defining the NHS, and what is FWHA finding with respect to many of the States' proposals and recommendations. Does FHWA anticipate any delays with the States' submissions that are due at the end of the month?

[The information follows:]

The functional reclassification, also required by Section 1006 of the Intermodal Surface Transportation Efficiency Act of 1991, is nearing completion and will be approved for most States by May 31. Work to develop the proposed NHS is proceeding as planned. The States are now finalizing their NHS proposals for submission to FHWA. State NHS proposals will be submitted to the FHWA division offices for an initial review and evaluation and then forwarded to the Washington Office during May and June; therefore, it is too early to report preliminary findings. We do anticipate some delays in receiving the States' submissions. For example, Montana, North Dakota, South Dakota and Wyoming do not plan to submit their NHS proposals until after a May 11 meeting with FHWA representatives. Effective May 4, the FHWA regional offices will be reporting the status of the functional reclassification approvals and the NHS submissions on a weekly basis to the FHWA Washington Office.

CLOSING

Mr. Carr. As always, I learn a lot when I talk to you all. You do a good job. I look forward to working with you.

We have a very, very tough problem this year. Like I said, our bottom line is we need some help in making those decisions. Otherwise if I play spin the bottle with the priorities, who knows what will happen? With that, thank you very much. The hearing is adjourned.

TUESDAY, MAY 11, 1993.

FEDERAL TRANSIT ADMINISTRATION

WITNESSES

ROBERT H. McMANUS, ACTING ADMINISTRATOR

JOHN W. SPENCER, DEPUTY ASSOCIATE ADMINISTRATOR FOR BUDGET AND POLICY

GREGORY B. McBRIDE, DEPUTY CHIEF COUNSEL

LAWRENCE L. SCHULMAN, ASSOCIATE ADMINISTRATOR FOR TECHNICAL ASSISTANCE AND SAFETY

OPENING REMARKS

Mr. CARR. Good morning. The Committee will come to order. Today we are going to be receiving testimony from the officials of the Federal Transit Administration in support of the President's fiscal year 1994 budget request. The administration is asking for $4.6 billion for the FTA in fiscal year 1994. This includes $1.64 billion to come from the general fund and $2.96 billion to be derived from the mass transit account or the Highway Trust Fund. The fiscal year 1994 request represents an increase of $800 million or 21 percent above the amounts available for the current fiscal year. It should be noted that the $699 million or a large majority of the increase above fiscal year 1993 is included in the President's investment package.

The principal witness today is Mr. Bob McManus, a long time official of the FTA, who is currently serving as the Acting Administrator.

Mr. McManus, your prepared statement in its entirety will be placed in the record, and we would ask that you summarize. I might just say also that for both the agency and the Congress, the Appropriations Committee in particular, it has been a difficult time, with such a long hiatus between the departure of the last Administrator and the confirmation of a new one. I want to commend you and all of your staff for carrying on in spite of the difficulty of not having an Administrator.

STATEMENT OF ROBERT MCMANUS

Why don't you give us a summary of your statement and then we will get right to questions.

FISCAL YEAR 1994 BUDGET REQUEST

Mr. McMANUS. Thank you, Mr. Chairman. First, I would like to introduce my colleagues at the table here. At my far right is Greg McBride, the Deputy Chief Counsel, at my immediate right John Spencer, the Deputy Associate Administrator for Budget and

Policy, and at my immediate left Larry Schulman, the Associate Administrator for Technical Assistance and Safety.

I am pleased to have the chance to speak about the administration's proposed budget for our agency for fiscal 1994 and to answer the questions you may have and members of the committee may have. I would like to highlight just parts of the extended statement that is going into the record.

We are seeking $4.6 billion in budget authority, which is a high mark for us in the history of the program, and it adds $802 million, as you have indicated, over the fiscal 1993 amount with virtually all of the increase channeled into programs for capital assistance and related planning. I think that is the significant aspect of this budget request. It is an easy budget to explain.

By item changes, $734 million of the $802 million is in formula programs, the Section 3 capital program adds another $46 million, another $21 million is added for urbanized area planning by metropolitan planning organizations, and administrative expenses increased by about a million dollars. WMATA is increased by $30 million, while the Interstate Transfer Program decreases by the same amount, and operating subsidies are unchanged at $802 million, as are planning and research accounts except for the MPO activity I just mentioned.

The budget will help us draw closer to the authorization levels established by ISTEA, redress the shortfall of capital resources in the formula programs, and bring our program levels into a rough approximation of mass transit capital needs estimates of FTA and transit constituency organizations. I would like to explain, Mr. Chairman, the reason for our focus on the capital only portion of the formula program.

SECTION 9 FORMULA

For many cities and States the capital portion of the Section 9 formula program has either run out of money entirely or is on the verge of doing so. Since the 1984–1985 years, to accommodate the understandable needs of individual cities, some seven to eight hundred million in capital money has been shifted from the formula program to the discretionary program. The result is that the formula program is suffering with respect to its basic intent of serving as a mainstay for routine investments in transit infrastructure.

In this fiscal year, in the Governors' component of the Section 9 program for urbanized areas between 50,000 and 200,000 population, 25 States have no capital money available to them. Their operating cap is greater than their total apportionment. A similar condition even prevails in some larger urbanized areas, places as diverse as San Juan, Puerto Rico; Montgomery, Alabama, and as I am sure you must be aware, Detroit, Michigan.

DISCRETIONARY PROGRAM

By directing $684 million more into the Section 9 formula, we will restore meaningful capital resources to all of these places. For Section 3 we are proposing a relatively minor increase of $46 million, almost $47 million, raising it to $1.77 billion. But we are not following precisely the 40–40–20 ratio between the new starts, rail modernization, and the bus categories. We are proposing a larger element for rail modernization than for new starts, $760 million versus $657 million for new starts, which reverses the split in 1993, which was in favor of new starts. We believe the additional funds are needed by the older rail cities because of the added cost they are facing in bringing themselves into full compliance with the Americans with Disabilities Act (ADA). From actual implementation plans submitted by rail transit operators which we have been reviewing, we have identified $900 million in one time-expense needed to establish systems of fully accessible key stations on rail transit systems.

Most of these costs will be expended over the next five years, which adds roughly $200 million a year to capital requirements for the balance of the ISTEA authorization. That is a positive argument on behalf of adding funding for rail modernization. A negative argument against additional funding for the new start category at this time would focus on the large unobligated balance we are carrying for this activity.

NEW STARTS

As of April 30 we had over $1 billion in unobligated Section 3 new start money on our books and expect to carry over several hundred million into the next fiscal year. We have just sent the Section 3(j) report to the committee, outlining the administration's recommendations for the allocation of FY 1994 new start funding, and a table taken from the report listing the projects is appended to my statement for the record.

Secretary Peña has made his recommendations for new start funding based on the premises that we should fulfill our obligations under existing full funding grant agreements first, rely on the newly enhanced investment criteria called out in the authorization legislation, and within this overall context be aware of our obligations to the Nation's economy and its work force by recommending projects for funding that are ready to go. We are trying to avoid suggesting making allocations to areas that simply want to bank the money ahead of the need for actual drawdown.

BUS PROGRAM

With reference to the Discretionary bus program proposed for $354 million in 1994, like the new starts program, it will have an excessive unobligated balance at the end of the fiscal year. We need some way to ensure that Section 3 bus projects once identified move promptly to actual investment. We are currently carrying on our books a balance of over $300 million in unobligated Section 3 bus money, yet in seeking bus projects for the President's stimulus proposal, we had developed a pipeline of $800 million in such projects, and as of this time $207 million of them are ready to go and approvable in every respect, including necessary certifications from the Department of Labor.

Just as we are pleased, Mr. Chairman, to work with you and your staff in scoping out ideas on the general matter of criteria for the awarding of Federal grants, we would also be pleased to discuss possible ways to allow unobligated earmarks to be rolled over into future years if necessary, and the funds used for projects that are ready for obligation at this time, or to discuss other ways to correlate the information we have on the pipeline case load with various requests being made to the committee by grantees. Looking at our budget request, the $4.6 billion, in terms of how well it meets mass transit investment needs, after subtracting operating assistance and other noncapital accounts, $3.6 billion is available for capital investment. Together with non-Federal matching funds and State and local programs over and above the bare minimum match, it equates to an overall mass transit capital investment of $6.2 billion per year.

TRANSIT NEEDS

Using our most recent biennial report to Congress on transit needs and performance as a reference point, which indicates that $7.5 billion annually from all sources is needed to improve both the condition and performance of transit, this means that the total level of capital investment for fiscal year 1994 would be sufficient not just to maintain current fiscal condition and growth trends, but to further eliminate the backlog of deferred capital investment and be positioned for accommodating some travel demand from forgone highway construction, which is suggested in the highway needs report.

PLANNING AND RESEARCH

I have mentioned that in this budget proposal all elements of planning and research activities are maintained at the fiscal year 1993 enacted levels except for planning in urbanized areas by metropolitan planning organizations. This activity is increased to $59 million by adding $21 million from Section 9 to correspond with the additional workload fostered by the planning requirements of the ISTEA itself, the Clean Air Act, and the proposed increase in capital programs.

OVERSIGHT

Finally, the extended statement contains a rather lengthy section on grant program oversight to which I simply call your attention in that it has been a matter of some contention over the past several months and because I want to assure the committee that we are fully attentive to the proprietary aspects of managing the budget authority we are seeking. This concludes my remarks, Mr. Chairman. I will be pleased to take up the committee's questions.

[The prepared statement of Mr. McManus follows:]

STATEMENT OF ROBERT H. MCMANUS
ACTING ADMINISTRATOR, FEDERAL TRANSIT ADMINISTRATION
BEFORE THE SUBCOMMITTEE ON TRANSPORTATION AND RELATED AGENCIES
COMMITTEE ON APPROPRIATIONS, U.S. HOUSE OF REPRESENTATIVES
TUESDAY, MAY 11, 1993

Mr. Chairman and members of the committee. My name is Robert McManus and I am the acting administrator of the Federal Transit Administration (FTA). I am pleased to be here to present the administration's proposed budget for Federal mass transit assistance for Fiscal Year 1994, and to answer your questions.

The Budget

For fiscal 1994, we are seeking budget authority in the amount of $4.6 billion. In the history of the Federal mass transit assistance program this is a high mark in budget authority proposed. More importantly, though, this budget corrects some disturbing trends that have been registering negative effects on the Federal mass transit assistance program for the past several years, and, consequently, on mass transit in America itself.

It has been a year-and-a-half since our current authorizing legislation -- the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) -- was passed. That legislation envisioned growth in Federal transit expenditures during its six-year life, something that was not the case during the previous authorization cycle.

But the increases envisioned in ISTEA, as much as they are needed, thus far have not happened. Instead, Federal transit assistance has remained static under ISTEA and our early experience ... at least with respect to dollar levels ... is not that much different from our experience under the preceding authorization.

More importantly, subtle shifts in the past three years in budget authority between discretionary and formula programs have had significant impacts on how both large and small transit systems manage their long range capital investment programs.

This budget changes all of that.

More Capital Assistance

Our budget for FY 1994 adds $802 million to our enacted appropriation for this fiscal year, FY 1993, and with virtually all of this money channeled into programs for capital assistance, it will help us do three very important things:

---it will help us draw closer to the authorization levels established by ISTEA, especially with respect to the trust fund;

---it will help redress a shortfall of capital resources that has been especially troublesome over the past several years in the formula programs;

---and it will help bring our program levels into rough approximation of mass transit capital investment needs estimates that both the FTA and various transit constituency organizations have recently published.

From a bottom line perspective, our FY 1994 request is 21 percent greater than our enacted appropriation for the current fiscal year.

Operating subsidies will remain unchanged at $802 million, while the capital-only increase in FY 1994 over FY 1993 will be a little over 28 percent. But within the Section 9 Urban Formula Program -- _the_ basic resource among all of the FTA's programs -- the capital-only increase proposed by our FY 1994 budget request is a robust 90 percent.

Let me explain for a moment, Mr. Chairman, why we believe the increased budget authority we are seeking must be focused in the capital-only portion of the basic formula program in such a way.

Capital Funds via Formula

Basically, for many cities and states the capital-only portion of the Section 9 formula program has either run out of money entirely, or is on the verge of doing so. We have created, really, a vicious cycle: To accommodate the quite understandable needs of individual cities, we have shifted money from the formula program to the discretionary program. But a little here and a little there and pretty soon the formula program itself begins to suffer with respect to its basic intent -- to function as a mainstay for routine investments in transit infrastructure.

Consider some of the following statistics:

---in FY 1993, the current fiscal year, we are allocating more money though the Section 3 program than through the Section 9 program; this is the first and only time that Section 3 has been larger than Section 9 since the Section 9 program was created in 1982;

---in the Governor's apportionment component of Section 9 -- which is to say Section 9 for urbanized areas between 50,000 and 200,000 in population -- 25 states have no capital-only money available to them at all; their operating cap is greater than their total apportionment;

---the same condition prevails in seven urbanized areas with populations in excess of 200,000, places with such diverse character as San Juan, Puerto Rico, Montgomery, Alabama, and as I'm sure you are all too aware Mr. Chairman, Detroit;

---and while these seven urbanized areas, and 25 states, are absolutely running on empty, many other jurisdictions -- I think of Buffalo and Trenton and Flint, Michigan -- have so little capital resources delivered by Section 9 that they might as well be deriving zero capital dollars from the FTA formula.

By directing over $680 million more into the formula, we will restore meaningful capital resources to all of these places. This will be especially welcomed by urbanized areas whose only form of public transportation is the bus, since rail transit has a larger call on Section 3 and is thus less sensitive to fluctuations in the level of capital resources provided by Section 9.

Because we are making this correction as a net addition to current spending levels, no reductions or transfers will be made within the overall FTA program to achieve our goal.

And while Section 9 will be the principal beneficiary of this increase in formula funding, both Section 18, rural transportation, and Section 16, specialized transportation, will see healthy increases in annual funding levels -- $40 million for Section 18, $10 million for Section 16 -- thus permitting more rational programs of routine vehicle replacement to be followed by the constituents of these programs.

Section 3

We are proposing a slight increase in the Section 3 program of $46.6 million for FY 1994, raising it to $1.77 billion.

The rail modernization component of this resource is, of course, now delivered entirely by statutory formula. But we are not proposing to follow the 40-40-20 ratio between new starts, rail modernization and bus obligations with absolute precision in FY 1994.

We are proposing a larger element for rail modernization than for new starts, $760 million versus $657 million. We believe the additional funds are needed by the older integrated rail cities because of the added costs they are all now facing in bringing themselves into full compliance with the Americans With Disabilities Act (ADA). From actual implementation plans submitted by rail transit operators, we have identified $900 million in one-time expenses, for instance, needed to establish a system of fully accessible "key stations" on rail transit systems in places like Boston, New York, Chicago and elsewhere.

Most of these costs will be expended over the next five years. This adds roughly $200 million a year to capital requirements for the balance of the ISTEA authorization period. The proposed $94 million increase over the FY 1993 enacted level for rail modernization will provide the support needed by rail systems to assist in keeping the station accessibility program on track.

That's a positive argument on behalf of added funding for rail modernization -- the need for investment to comply with ADA; an argument against additional funding for the new start category, at this time, would focus on the large unobligated balance we are carrying for this program.

New Starts

As of April 30, we had over $1 billion in unobligated Section 3 new start money on our books, and while this will be worked down significantly by the end of the fiscal year, we will without any question carry over several hundred million dollars in unobligated new start money into the next fiscal year.

With respect to new starts, Mr. Chairman, I am very pleased to note that a proactive and positive Section 3(j) report has been delivered to the Congress outlining the administration's recommendations for the allocation of FY 1994 new start funding. This is the first time that this required report has been available to Congressional Committees in time to be taken into account effectively during the appropriations process.

Secretary Peña has made his recommendations for new start funding based on these criteria:

---we should fulfill our obligations under existing full funding grant agreements;

---we should rely on the newly enhanced investment criteria called out in ISTEA;

---and within this overall context, we should be aware of our obligations to the nation's economy and its workforce by recommending projects for funding that are ready to go ... that are ready to put Federal dollars to work.

Table 1, taken from the 3(j) report, listing the projects recommended for FY 1994 funding, is appended.

It should be noted that the $6 billion in specific projects identified in ISTEA exceeds the $5 billion authorized for the new start program overall. This difference will need to be reconciled on a year-to-year basis through the appropriations process. We would expect that, for a variety of reasons, some of the projects identified in ISTEA will not proceed to construction. Other projects that were not specifically mentioned in ISTEA may emerge as good candidates for funding. The 3(j) report and the annual appropriations process will ultimately determine the actual amount of funding for each project. I would also like to add this comment, Mr. Chairman, with respect to new starts: this is a component of our overall transit assistance program that rightly merits a good deal of attention and public discussion. However all new system accounts in this budget -- Section 3, Washington Metropolitan Area Transit Authority (WMATA), and Interstate Transfer -- represent only 25 percent of our overall proposed capital investment budget of $3.6 billion; this perspective is important to keep in mind.

Discretionary Bus

With reference to the Section 3 discretionary bus program, like the New Start Program, it will have an excessive unobligated balance at the end of the fiscal year. We need some mechanism to ensure that Section 3 bus projects, once identified, move promptly to actual investment.

We are currently carrying on our books a balance of over $300 million in unobligated Section 3 bus money. Yet in seeking Section 3 discretionary bus projects for the president's stimulus proposal, we developed a pipeline of $800 million in such projects, and as of this time, $207.3 million of them are ready-to-go and approvable in every respect, including necessary certifications from the Department of Labor.

Not a single project on this $800 million list also appears on the $300 million list of previously earmarked Section 3 bus projects that continue to be unobligated.

I think you will agree, Mr. Chairman, that we have a mis-match here ... ready-to-obligate projects without money on the one hand, and reserved money for projects that aren't ready for obligation on the other.

I am making no arguments today for or against the practice of Congressional earmarking of discretionary resources. I am suggesting, however, that we might want to explore some further options to ensure that appropriated dollars make their way into the economy -- and provide needed assistance to the transit industry -- in as timely a fashion as possible.

Just as we were very pleased, Mr. Chairman, to work with you and your staff in scoping out ideas on the general matter of criteria for the awarding of Federal grants, we would also be pleased to discuss possible ways to allow unobligated earmarks to be rolled over into future years and their funds used for projects that are ready for obligation, or to discuss other ways to correlate the information we have on the pipeline caseload with various requests being made to the committee by grantees.

Transit Investment Needs

Let us now look at our proposed $4.6 billion FY 1994 budget not in terms of the internal sections and procedures of the Federal Transit Act, but it terms of how well it meets mass transit investment needs in America.

After subtracting operating assistance and other non-capital accounts, $3.6 billion is available for capital investment. This $3.6 billion is merely the Federal contribution to transit investment; thanks to both necessary non-Federal matching funds, as well as state and local transit investment programs that are over and above the mandatory match, a Federal investment of $3.6 billion equates to an overall mass transit capital investment of $6.2 billion.

The FTA's most recent biennial report to Congress on transit needs and performance indicates that $7.5 billion annually from all sources is needed to improve both the condition and performance of transit. This means that the total level of capital investment for FY 1994, including local match and overmatch, and other current non-Federal spending, would be sufficient not just to maintain current physical condition and growth trends, but to further eliminate the backlog of deferred capital investment, and be positioned for accommodating some travel demand from foregone highway construction.

The flexibility features of the ISTEA offer further potential for closing the gap. Last year $304 million was transferred for transit use from multi-modal programs in the highway title, and an additional $168 million was transferred during the first two quarters of this fiscal year. As the new planning and flexibility provisions become more fully understood, we expect such transfers to be used more frequently. We will continue to work closely with the Federal Highway Administration (FHWA) in administering these provisions.

Planning & Research

The ISTEA reconfigured the delivery system for some of our planning and research programs into a new Section 26 of the Act, and added an element similar to one in the FHWA program, ours being called the Transit Cooperative Research program. In this budget proposal, all elements of Section 26 are maintained at the FY 1993 enacted levels, except for planning in urbanized areas by

Metropolitan Planning Organizations (MPO's). This activity is increased to $59.4 million (by adding $21.2 million from Section 9) to correspond with the additional workload fostered by the planning requirements of the ISTEA itself, the Clean Air Act (CAA), and the proposed increase in capital programs.

Without question, the transportation planning requirements in the CAA -- particularly the new air quality conformity requirements -- are straining the budgets of many metropolitan planning organizations. The MPO's must have augmented funding in order to meet these new requirements.

We have worked closely with Environmental Protection Agency (EPA) and FHWA to provide guidance on Clean Air Act implementation. Over the past year, we have jointly funded conferences aimed at planning practitioners, as well as administrators at the state and local level, and we have supported the development of technical guidance which will aid state and local planners in formulating effective emission control strategies. The same three agencies also jointly fund an outreach effort through the National Association of Regional Councils to keep all interested parties informed on recent events.

Also with respect to transportation planning and ISTEA, on March 2 of this year, the FTA, jointly with the FHWA, issued three Notices of Proposed Rulemaking (NPRM's) to carry out the new law's directives on metropolitan planning, statewide planning, and state development of transportation management and monitoring systems. The comment period on the proposals closed on May 3. We are firmly convinced that the changes in transportation planning requirements as mandated by ISTEA will result in better metropolitan and statewide transportation investment decisions.

In the area of research, our focus has been on helping our grantees meet challenges associated with recent Federal legislative mandates, most notably CAA amendments and the Americans With Disabilities Act. We also seek to help the transit industry realize maximum benefits from our own capital and operating assistance programs.

To the extent projects in these areas involve new and sophisticated technology, they can also become opportunities for aerospace and defense industries to begin a "conversion" to non-military pursuits.

Our Fuel Cell/Battery Bus program, for instance, a joint effort between the FTA and the Department of Energy (DOE), has already demonstrated the technical feasibility of an electric fuel-cell propulsion system. Preliminary results of early testing indicate that it would take 200 buses fueled by such a system to reach the same levels of exhaust emissions as a single diesel-powered transit bus using today's technology.

We have also been exploring various options and possibilities for the use of alternative fuels in internal-combustion engines. FTA has awarded 61 grants for projects that will fund the deployment of over 1,100 new buses, most of which are fueled by either compressed natural gas or methanol.

We are continuing our evaluations of these initial deployments and should have solid information about what works, what does not work -- and why -- in the next six months.

FTA has also initiated two projects to develop advanced technology buses, one in cooperation with the Los Angeles County MTA, the other with Houston Metro. In the first project, a new low-floor, lightweight bus is being designed, using technology and materials from the aerospace industry, that will meet or exceed existing industry standards for clean air, accessibility, maintenance and service reliability.

These kinds of efforts provide fertile ground for defense-oriented manufacturers seeking non-defense markets.

Already such companies as General Electric, Northrop, Westinghouse and Motorola have adapted state-of-the-art technologies from defense and military applications to areas such as automatic vehicle locator systems, traveler information and fare collection. These are not in common use in mass transit today, but they point the way to the future.

Secretary Pena has also spoken enthusiastically about the potential for increasing the domestic share of rail car manufacturing by the introduction of defense firms to this activity.

In short, our efforts in mass transit Research & Development are ready to play a role in what could well become one of the most profound industrial transformations our country has ever seen.

Program Oversight

Finally, Mr. Chairman, I want to comment on the matter of oversight -- for two reasons:

---One, it has been a matter of some contention over the past several months;

---But far more importantly, I want to assure the committee that the Federal Transit Administration is fully attentive to the proprietary aspects of managing the new budget authority of $4.6 billion that we are seeking.

There are many aspects to oversight.

There is the perspective provided by independent oversight of executive branch operations by inspectors general as well as by the General Accounting Office (GAO) of the Congress. We need this perspective. There is also the focus of internal oversight by and within an agency of its own operations.

In the case of the FTA, the independent oversight agencies have been suggesting that internal oversight is insufficient.

Actions currently underway by FTA to modify certain aspects of grantee oversight represent a strengthening of oversight activities that we have been developing for several years; the emphasis is not something totally new. And FTA's past oversight was fully consistent with applicable laws, regulations and other Federal directives.

Reduced staffing, however, and unrealized expectations under the annual audits required by the Single Agency Audit Act, coupled with increased statutory and regulatory responsibilities since 1984, inhibited the agency's ability to carry out oversight programs as envisioned, in particular triennial reviews.

For example, in 1989, due to staff shortages, many regions found it difficult to keep up with planned schedules to review all Section 9 grantees every three years, as required by law. There was a serious backlog of reports and letters of findings; documentation was lacking and frequently did not support the findings.

This is the condition that the Department's Office of Inspector General (OIG) found during audits that were summarized by the GAO in its regional and summary reports. FTA had undergone a 27 percent reduction in regional staff during the 1980's in the face of substantial growth in statutory and regulatory requirements.

At the same time, we successfully sought statutory authority to retain oversight contractors using a percentage of program funds. This was first granted by Congress in FY 1986 for oversight of major construction, and expanded in Fiscal Year 1990 to cover safety, procurement, management and financial compliance reviews, and audits. There was also some restoration of personnel in FY's 1991 and 1992.

With the new authorities under Section 23(h), FTA's management and oversight capabilities have been enhanced and staff augmented by the expanded use of contractors with expertise in areas of concern. We now routinely use such contractor support to help us conduct: triennial reviews; financial management oversight reviews; procurement systems reviews; and project management oversight; and ADA paratransit plan reviews. Together, contractors utilized in these areas effectively augment FTA staff by the equivalent of 79 FTE's.

FTA recently reorganized the regional staff to devote 40 FTE's exclusively to program oversight, of which only three positions are currently vacant. This combined effort of 40 FTA regional staff assigned to program oversight, plus 79 FTE's in contractor support, provides a total of 119 FTE's to support grants management oversight.

Let me further describe an array of activities addressing oversight and grants management concerns.

Last fall FTA started a new risk assessment program that requires the regional staff to rank each grantee as potentially high, medium or low risk on an annual basis. From this ranking process the regions develop an oversight plan for each grantee needing special attention. The plan identifies those grantees who pose a potential risk in terms of needing to improve some aspect of their grant management activities. A national program was developed through the risk assessment program coordinating travel and contractor resources required for grantees in the high or medium range.

In procurement, FTA conducted a review and developed an action plan for strengthening third party contracting oversight. The plan includes enhanced technical assistance available to grantees, training for grantees and FTA personnel, and special procurement systems oversight reviews.

FTA now has three active third party procurement review contracts, valued at $4.2 million, to assist in monitoring grantee procurement operations. We believe that it is important to review the 50 largest grantees every three to four years, and to provide technical assistance to ensure sound procurement practices when using Federal funds. For the current fiscal year, FTA contractors are providing procurement reviews for 22 grantees.

FTA has 10 active Project Management Oversight (PMO) contracts, with task orders totaling about $10 million a year; these 10 contractors are monitoring $27 billion in major capital projects. Projects being monitored include 22 new starts valued at $16 billion, and 30 fixed guideway modernization projects valued at $11 billion.

To assure the continued effectiveness of this effort, FTA issued the first consolidated version of our "Project Management Oversight Operating Guidance" document in January 1991. The operating guidance document touches all dimensions of the PMO program, including regulations, procedures and policy. Some of the areas addressed in the operating guidance are: how PMO contractors are assigned to projects; how regional engineers should monitor the work of the PMO contractors; and the PMO contractor's role and responsibility during the various phases of the development of a major capital project.

FTA implemented a new program in FY 1991 to review and assess selected grantee's financial management systems. The new Financial Management Oversight (FMO) program provides an in-depth analysis of accounting and financial system control; how payments move through the system; when and how payments are approved and made; the timeliness of payments; the financial impact of change orders; and the adequacy of the grantee's tracking system. The review also includes an evaluation of the grantee's overall organization and internal control environment. The FMO contractors have completed 10 reviews. Through the risk assessment process, the regions have requested 26 financial management oversight reviews for FY 1993.

In the area of triennial reviews, there has been a longstanding disagreement between the FTA and the position of the OIG and GAO on the proper role of the triennial review in the larger scheme of the FTA program management and oversight activities. FTA uses a multi-tiered system to ensure that grantees' use of funds complies with Federal requirements. This includes grantee oversight activities by FTA, state and local audits conducted by certified accounting firms and government entities, as well as Federal audit activities conducted by OIG and GAO .

No one element of this system -- such as the triennial review -- was ever intended to stand alone and should not be judged on that basis. While improvements have been made, the system was always essentially sound. These improvements include:

---FTA developed a triennial review "how to" handbook that provides a thorough description of the most successfully proven techniques for the performance of the triennial review. The handbook brings to fruition more than two years research and addresses past criticisms that the triennial review effort needed more specific guidance and the questions needed to include some testing.

---Triennial review training has been provided on a regular basis since FY 1990. For example, in addition to several smaller workshops, a triennial review training workshop was held August 5 through 7, 1992, in Washington, D.C., with more than 50 participants.

Also, a model filing system was established in each regional office. The system is described in the triennial review handbook has now been developed into an easy to follow index. The model filing system will assure proper documentation of triennial review and other oversight activities as well as ensure consistency between regions.

Additionally, a new micro-computer based triennial review information system (TRIS) has been installed on each regional and headquarters office local area network. The primary benefit of the new system is assistance in monitoring corrective actions that arise out of the triennial review. The system also tracks A-128 and other audit findings for a coordinated effort.

Other grants management enhancements include continued emphasis on the expeditious closing out of projects. Since FY 1987, FTA has closed over 10,500 projects, while in this same time period, the agency awarded only about 7,700 projects and project amendments. The number of active projects remains at a reasonable and stable level because of such attention to closeout activity.

Additionally, FTA has taken action to ensure that grantee quarterly reports comply with requirements and are submitted on time. About a year ago, FTA implemented a change to the Grants Management Information System (GMIS) to record the status of quarterly progress reports. FTA headquarters can now perform regular project management and oversight reviews to examine the status of the receipt of grantee quarterly reports in the regional office as recorded in GMIS.

In the civil rights area, several actions have been taken to increase assurance of grantee compliance. For example in the areas of Equal Employment Opportunity, Disadvantaged Business Enterprise programs, nondiscrimination in the provision of service as well as the Americans With Disabilities Act, the FTA Office of Civil Rights is developing regional training programs and new agency procedures for ensuring compliance. In all cases, the agency will continue to rely on the good faith efforts of the FTA grantees as well as affected groups to continue to work together to reach even greater levels of achievement.

FTA's oversight philosophy is built upon fundamental principles of Federalism and recognizes the legitimate roles of Federal, state and local governments in meeting the nation's transit needs. This allows a grantee's difficulties with a particular project or system of controls to be resolved over a period of time and with a spirit of cooperation.

Within this context, FTA applies a progression of enforcement tools as necessary, until compliance is achieved.

Mr. Chairman, that concludes my opening statement.

Table 1
FY 1994 Funding for New Start Authorizations
(millions of dollars)

City/Project	FY 1992 and Prior Year Earmarks		FY 1993 Adjusted Earmarks	FY 1994 Recommended Funding	Maximum Outyear Funds	Total Recommended Funding	Total ISTEA Earmarks
	Obligated	Unobligated					
TOTALS BY PHASE							
Under Construction	$1,053.06	$112.82	$141.52	$123.19	$38.72	$1,469.31	$293.36
Final Design	117.55	5.12	162.67	394.85	1,256.08	1,936.27	1,916.30
Preliminary Engineering	81.16	269.55	220.08	79.23	463.52	1,113.54	2,046.73
Alternatives Analysis	24.22	114.95	154.18	45.00	433.57	771.92	1,218.10
System Planning & Other	1.17	83.82	37.86	10.00	0.00	132.85	682.20
GRAND TOTAL	$1,277.16	$586.26	$716.31	$652.27	$2,191.89	$5,423.89	$6,156.69
UNDER CONSTRUCTION							
Dallas - South Oak Cliff	$0.00	$40.38	$42.18	$38.72	$38.72	$160.00	$160.00
Los Angeles MOS-2	548.11	0.00	49.62	69.27	0.00	667.00	69.11
Miami - DPM Extensions	135.63	45.34	7.54	0.00	0.00	188.51	5.63
St. Louis - Metrolink	287.62	0.00	42.18	15.20	0.00	345.00	15.92
San Francisco - Colma	81.70	27.10	0.00	0.00	0.00	108.80	42.70
SUBTOTAL	$1,053.06	$112.82	$141.52	$123.19	$38.72	$1,469.31	$293.36
FINAL DESIGN							
Atlanta - North	$92.24	$0.00	$29.78	$54.00	$208.80	$384.82	$329.00
Jacksonville - South	0.00	5.12	9.92	0.00	0.00	15.04	71.20
Los Angeles - MOS-3	0.00	0.00	39.70	163.05	492.25	695.00	695.00
New York - Queens	11.00	0.00	15.78	73.80	221.52	322.10	306.10
Portland - Westside	14.31	0.00	67.49	104.00	333.51	519.31	515.00
SUBTOTAL	$117.55	$5.12	$162.67	$394.85	$1,256.08	$1,936.27	$1,916.30
PRELIMINARY ENGINEERING							
Baltimore - LRT Extensions	$2.00	$16.87	$24.81	$18.15	$0.00	$61.83	$60.00
Chicago - Central	17.07	19.19	21.09	5.00	0.00	62.35	260.00
Honolulu - Rapid Transit	36.38	0.00	75.93	0.00	0.00	112.31	618.00
Houston - Regional Bus	6.40	155.03	33.74	5.00	424.90	625.07	500.00
Orange Co - Transitway	0.00	0.00	0.00	10.00	0.00	10.00	0.00
Pittsburgh - Busways	0.00	7.68	16.87	12.68	38.62	76.05	7.68
Salt Lake City - South LRT	6.56	11.48	2.98	0.00	0.00	21.02	131.00
SF Area - Airport/Tasman	12.75	59.30	44.66	28.20	0.00	144.91	470.05
SUBTOTAL	$81.16	$269.55	$220.08	$79.23	$463.52	$1,113.54	$2,046.73
ALTERNATIVES ANALYSIS							
Austin - North Central	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Boston - Piers	10.75	0.00	37.96	0.00	0.00	48.71	278.00
Cleveland - Dual Hub	0.00	8.96	1.49	0.00	0.00	10.45	5.00
Dallas - North Central	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Denver - Southwest	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Kansas City - South LRT	0.37	1.13	0.00	0.00	0.00	1.50	5.90
Los Angeles - E Central	0.00	0.00	19.85	0.00	0.00	19.85	(*535.00)
Los Angeles - W Central	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maine/Boston - Portland CR	0.00	0.00	25.30	5.00	0.00	30.30	30.00
Milwaukee - East/West	0.00	0.00	0.00	0.00	0.00	0.00	200.00
Minneapolis-Central	0.00	0.00	0.00	0.00	0.00	0.00	0.00
New Jersey - Urban Core	12.60	95.90	64.93	40.00	433.57	647.00	634.40
New Orleans - Canal Street	0.00	0.00	0.00	0.00	0.00	0.00	4.80
Orlando - OSCAR	0.00	0.51	1.98	0.00	0.00	2.49	5.00
Portland - Hillsboro	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sacramento - South	0.00	0.00	0.99	0.00	0.00	0.99	26.00
St Louis - St Clair	0.50	6.05	0.00	0.00	0.00	6.55	2.00
San Diego - Mid Coast	0.00	2.40	1.68	0.00	0.00	4.08	27.00
SUBTOTAL	$24.22	$114.95	$154.18	$45.00	$433.57	$771.92	$1,218.10

* Advance construction authority

Table 1 (continued)
FY 1994 Funding for New Starts Authorizations
(millions of dollars)

City/Project	FY 1992 and Prior Year Earmarks Obligated	FY 1992 and Prior Year Earmarks Unobligated	FY 1993 Adjusted Earmarks	FY 1994 Proposed Funding	Maximum Outyear Funds	Total Recommended Funding	Total ISTEA Earmarks
SYSTEM PLANNING AND OTHER							
Altoona - Pedestrian	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$3.20
Chattanooga - Trolley	0.00	1.00	0.00	0.00	0.00	1.00	2.00
Dallas - Railtran	0.00	2.48	0.00	0.00	0.00	2.48	5.68
Los Angeles - Multimodal	0.00	0.00	0.00	0.00	0.00	0.00	15.00
Los Angeles-San Diego CR	0.00	10.00	0.00	0.00	0.00	10.00	20.00
Maryland - MARC Exts	0.00	0.00	9.92	10.00	0.00	19.92	160.00
New Jersey - Hawthorne	0.00	35.71	4.45	0.00	0.00	40.16	46.87
New York - Midtown Ferry	0.00	1.00	0.00	0.00	0.00	1.00	12.00
San Jose - Gilroy CR	0.00	8.00	0.00	0.00	0.00	8.00	21.00
Seattle - CR	0.00	5.12	15.18	0.00	0.00	20.30	25.00
Seattle - Rail	0.00	0.00	0.00	0.00	0.00	0.00	300.00
Vallejo - Ferry	0.00	8.00	0.00	0.00	0.00	8.00	17.00
Atlanta - Buckhead PM	0.00	0.20	0.00	0.00	0.00	0.20	0.20
Atlanta - CR	0.00	0.00	0.00	0.00	0.00	0.00	0.10
Boston - NS-SS Link	0.25	0.00	0.00	0.00	0.00	0.25	0.25
Charlotte - Priority	0.12	0.00	0.00	0.00	0.00	0.12	0.50
Cleveland - CR	0.80	0.00	0.00	0.00	0.00	0.80	1.60
Cleveland - Highland Hts	0.00	0.00	0.00	0.00	0.00	0.00	1.20
Detroit - LRT	0.00	10.00	0.00	0.00	0.00	10.00	20.00
Long Beach - MetroLink	0.00	0.00	0.00	0.00	0.00	0.00	4.00
New Jersey - Lkwd-Frhld CR	0.00	1.80	2.98	0.00	0.00	4.78	7.80
Philadelphia - Cross Cty	0.00	0.51	0.69	0.00	0.00	1.20	2.40
Philadelphia - N East CR	0.00	0.00	0.00	0.00	0.00	0.00	0.40
Pittsburgh - LR Rehab	0.00	0.00	0.00	0.00	0.00	0.00	5.00
Tri-County Commuter Rail	0.00	0.00	4.64	0.00	0.00	4.64	0.00
Washington - Dulles	0.00	0.00	0.00	0.00	0.00	0.00	6.00
Washington - Largo	0.00	0.00	0.00	0.00	0.00	0.00	5.00
SUBTOTAL	**$1.17**	**$83.82**	**$37.86**	**$10.00**	**$0.00**	**$132.85**	**$682.20**

TRANSIT CRITERIA

Mr. CARR. Thank you, Mr. McManus. We appreciate your statement and this Member in particular likes what you have to say about making sure that we don't allow properties to bank money, essentially trying to turn discretionary programs into entitlement programs by the incessant need for show dollars. In general, I am in agreement with your shift toward rail modernization, taking care of a huge backlog of maintenance, upgrades, and repairs in older cities.

We would like to work with you with regard to further development of our criteria. In many ways FTA has more experience at this than we do. However, we think that FTA probably ought to augment some of its own activities in this regard and strive to do better. I might point out at this juncture that we did publish criteria last week, and with regard to the transit criteria we had one omission that we will be adding, and that is that this Committee does not regard the use of Section 9 money and will not count the use of Section 9 money in any calculation of local match. That is something that this Committee has been doing for a long time under my predecessor, and these are questions that we have asked, but through an omission we didn't put that on our transit criteria list. We didn't want people to assume that one of the old criteria was not transitioning to the new criteria, so I want to make that clear.

TRANSIT SHARE OF TRAVEL

The Nationwide Personal Transportation Survey, of which I have a copy, was published by the Department of Transportation in July of 1992, and contains a separate chapter entitled, "What Has Happened To Transit?". Some of the findings of the survey were that; transit's share of all national travel has declined to about 2 percent; the downward trend seems uniform across all the traditional users of transit; declines in transit use among women reflect a reduction in the traditional tendency of women to use transit more than men; and low income populations have shifted away from transit to the extent that the single occupant private vehicle use by the poverty population has reached 60 percent of trips to work.

However, the administration's 1994 budget request reflects a sizable increase in transit funding. As a threshold we want to see if you can help us rationalize why if transit use is declining, why we should be spending more in transit. Aren't we ending up paying more and getting less? Mr. McManus?

Mr. McMANUS. Well, I think there are a lot of prisms for looking at the transit program. It has lost a market share, as you have indicated, but the transit share of work trips has declined actually steadily since 1945, but since 1980 the absolute numbers of people who regularly use transit for their journeys to work stayed constant at about six million commuters per day. By comparison even car pooling, the market conditions for which are very similar to transit, suffered a very large decrease in both share of trips and absolute numbers. So transit alone isn't losing market share to private transportation. Car pooling, shared riding is doing the same.

I learned in thinking about this whole subject that the current real price of a gallon of gasoline is about 30 percent lower than it actually cost in 1947 on eliminating the effect of inflation. So because most of the perceived cost of driving is the cost of gasoline, many more people have chosen to drive by car. Between 1980 and 1990, on the other hand, transit fares have increased in real terms by 39 percent, so that the cost of taking transit has increased a lot.

The population and employment of our cities continues to decentralize, making it more difficult for transit to serve the ensuing travel patterns, so that is another problem that the mode faces. It best works in dense areas with central points of development, and that is where the market share has held up, and that is where the absolute numbers hold up.

Another factor that affects mode choice is the increasing number of single parent families with more complex trip patterns requiring dropoffs and stops both to and from work, a kind of trip making that is extremely difficult for transit to serve. I remember years ago Marshall McLuhan's book on understanding media and technology, and he pointed out that private transportation has always been preferred in the history of civilization and the transit actually only had an advantage over private transportation when it had a propulsion advantage in the early years of this century over the horse and buggy and carriage, and once that propulsion advantage was lost, why, we began to see a long-term decline in transit. But I think the way to look at it is the way the Congress looked at it in passing the ISTEA. For the first time in 30 years another purpose was added to the law. It had to do with specific reference to social benefits, and particularly to providing Federal resources to help implement national goals relating to mobility for elderly persons, for persons with disabilities, for economically disadvantaged persons, and there was an accompanying finding that significant improvements are necessary in transit to achieve these national goals and also mentioning air quality, energy conservation, and so on along with the direct reference to vulnerable populations.

I think that was very significant, and my own feeling is that this has been the heart and soul of the transit function and the program right from the start. I think the politician recognizes it at the local level. I remember years ago when I first came with this program I just made a check on what was the largest city which did not have public transportation, and it turned out to be Odessa, Texas. In other words, we go down a long way before the local politician is ready to give up the service, and I think it is because of the underlying realization that it is a social program. The program, unlike the other programs of the department, stems from the general welfare clause of the Constitution. The others by and large are drawn from the commerce clause, highways, maritime, Federal railroads. These programs stem from that stream, so I think that is a prism through which to look at this program.

ENVIRONMENTAL PRESSURES

In addition, we are in a period where environmental policies are putting a heavy arm on the Transportation Department to take extreme measures, or let's say strong measures to do everything we can to affect mode choice in reversing what the numbers in this national personal transportation study report indicate, but not just with respect to transit, also with respect to all forms of shared riding. We will see how that turns out in the next four or five years or ten years or whether there is going to be another technology change that relieves all of the pressure on air quality standards. That may well happen. But until it does, we are obliged to make the strong efforts to achieve congestion mitigation and air quality improvement using transportation improvement programs and encouraging local officials to use pricing authority and the police power with respect to traffic management to do something about this. So that would be my case. I think it is a general one, but I think it is undeniable.

NATIONWIDE PERSONAL TRANSPORTATION STUDY

Mr. Carr. Well, I think you state it as well as you possibly can, Mr. McManus. I know that there are those who are real transit enthusiasts because they think it is a social program and they believe in it as a social program and that it is part of their social engineering agenda. I realize what ISTEA said, we live with it in this committee all the time. However, those who were principally responsible for passing ISTEA, with all due respect to them, were not the people who have to make the tough choices on resources. That is this Committee's responsibility, and while they talk intermodal, the fact of the matter is this is the only intermodal committee in the Congress, this and our Senate counterpart. We have to trade off scarce dollars between the Coast Guard and intercity rail and aviation and highways and transit, and since transit by and large does not pay its own way and requires massive subsidies, it is always attempting to finance a mode of transportation on somebody else's dollar. There is very little discipline there, but I think you make as good a case as can be made here. It is something that this Committee wants to watch very carefully.

When I go around and visit these transit properties, I ask them what they spend on advertising? It is next to nothing, and what advertising they get is usually out of some kind of a barter arrangement with a newspaper, radio or TV station. There are budgets for advertising. I don't know whether people think that is maybe a waste of money, but, awareness in this society is driven by, in part, advertising through television and radio. I think that there is a lot of people out there who might use transit if they knew what kind of an alternative it was for them, if they had more information about transit as an option. Somehow or other we, through one policy and another, have discouraged transit properties from engaging in full scale advertising and public relations.

But back to the survey. I will let you respond. I have another question here. You can fold your response into the answer to that question. Another finding of the nationwide personal transportation survey is that the suburbs, which account for 29 percent of the transit trips, accounted for more than 41 percent of the decline in travel by transit. Aren't many of the transit systems being funded by the FTA designed to serve suburbs? Isn't this one of the reasons we see so many projects where the ridership projections are several times what actual experience turns out to be?

Mr. McManus. Well, that is where the market is if you could capture it, but even with the market share that transit has in suburban areas, there still is an economic justification for putting money into the line haul systems that serve the strongest market that we have in the suburbs. I saw recently—I can't put my hands on it—an article in a Brookings periodical that analyzed the wisdom of public subsidies to transit in the Philadelphia area, and concluded using the same kinds of indicators that the committee has called out in your criteria on benefits and costs and showed that to my surprise that the value, the benefits for the general public owing to the maintenance of the vast commuter rail network in the Philadelphia area justified the substantial subsidy. I wouldn't have expected that for that part of the Philadelphia system, so I think we have to expose the economic connections to transit in a fuller way than we have so far, even in a suburban area, but I mentioned earlier that the market area is hard to serve, and it is also up against the multiple kind of tripmaking that has to happen in suburban areas.

Mr. Carr. Perhaps you could find a copy of that Brookings article and get it to the Committee.

Mr. McManus. I would be glad to do that.

[The information follows:]

YOU RIDE, I'LL PAY: SOCIAL BENEFITS AND TRANSIT SUBSIDIES

By Janet Rothenberg Pack
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ABSTRACT: In 1989, federal, state, and local governments contributed $7.1 billion to transit operating costs. Capital subsidies brought the total to more than $10 billion. For every dollar transit riders paid in fares, taxpayers paid 2 dollars in subsidies. The critical issue is whether there is any justification for the subsidies. There are 5 benefits clearly attributable to the commuter rail system: 1. decreased accidents, 2. shortened commuting time, 3. decreased downtown noise and pollution, 4. decreased congestion on alternate transit facilities, and 5. increased welfare of the commuter rail riders. In the case of the Southeastern Pennsylvania Transportation Authority, it is clear that commuter rail, operating at its current level, generates benefits substantially greater than its costs. The problem for public policy is that although social benefits are real, they are not translated into transit revenues. If public authorities could make all beneficiaries pay fully for the benefits they receive from the existence of the transit system, the problem subsidies would disappear, at least where social benefits exceed costs.

TEXT: The public subsidies underwriting the nation's mass transit bus and rail systems are enormous. In 1989 federal, state, and local governments contributed $7.1 billion to transit operating costs. Capital subsidies brought the total to more than $10 billion. For every dollar transit riders paid in fares, taxpayers paid two dollars in subsidy.

Not unexpectedly, during a decade of huge federal deficits, tax revolts in the states, and increased interest in privatization and public efficiency, the transit subsidies have been widely attacked. In 1985 President Reagan advised a group of Miami, Florida, county officials that they could have saved money by buying a limousine for each of Miami's transit users instead of building their new system. Tony Snow, in a 1986 article entitled "The Great Train Robbery" in Policy Review, estimated that Miami "could have purchased each passenger a $45,000 condominium for the cost of building the system and would have been able to throw in a subcompact car with the first year's operating losses." In the case of the Washington, D.C., Metrorail system, Snow suggested that the city could have bought "a BMW for each of its daily passengers." (No one has addressed the question of whether it would be better to buy a limousine, a subcompact, or a BMW.)

The critical issue is whether there is any justification for the subsidies. The argument that transit systems should not run at a deficit assumes that riders are the sole beneficiaries and should be made to cover full marginal costs through their fares. As noted by Patrick G. Marshall in a 1988 report for Congressional Quarterly, "The key to achieving a more efficient transportation system, say many transportation experts, is to make sure that each mode carries its own weight, with users fully funding the infrastructure, and let the market decide which are the most efficient modes for given purposes.

But consider the implications of closing down the transit systems. Immediately more automobiles will take to the roads. Traffic accidents will increase, congestion will worsen, air quality will deteriorate, and more land will be gobbled up by parking garages. According to the Urban Institute, in 1988 some 14.8 million traffic accidents, involving 47,000 deaths and five million injuries, cost the nation $334 billion. If public transit systems helped avoid accidents equal to 1 percent of that total, the nation saved about $3.3 billion, nearly half the total public operating subsidy m 1989. And in his 1988 report, Marshall, quoting Robert A. Poole, Jr., of the Reason Foundation, noted that the time and gasoline wasted in Los Angeles County traffic jams each year could be valued conservatively at half a billion dollars. Even if public transit carries only a fraction of rush hour commuters--in the Philadelphia metropohtan area, for example, about 20 percent of the total, but about 70 percent of those traveling to jobs downtown--congestion and congestion costs would be substantially greater if transit riders got back into their cars.

It is too often forgotten that transit riders are not the sole beneficiaries of mass transit. Society as a whole benefits as well. The question is how the benefits and the subsidies measure up. With public budgets under increasing scrutiny, urban infrastructure aging, and demands for funding of social programs growing more pressing, the billions of dollars spent to subsidize public transportation will surely be a target for cutbacks. If the social benefits derived from public transportation are demonstrably smaller than the subsidy, it may be time to reallocate resources away from transit subsidies. If the social benefits actually outweigh the subsidies, a case can be made to defend the subsidies. (This is not to argue that the existing level of subsidy is warranted since it is also true that subsidies may promote inefficiency. With improved efficiency, the same level of benefits could be achieved with lower subsidies.)

THE NEED FOR COST-BENEFIT ANALYSIS

Although much lip service is paid to the need for cost-benefit analysis of public programs, few such studies exist for mass transit. In their absence, proponents can argue that programs are justified by the many obvious social benefits they generate, and opponents can simply assert that the huge expenditures proposed could not possibly be outweighed by the social benefits.

In what follows I sketch out a simple cost-benefit analysis of a single mass transit system. My aim is limited. I do not address questions about whether the billions spent on mass transit subsidies would be better spent on road repair or highway expansion-which are themselves, of course, highly subsidized by all levels of government. Nor do I consider whether air quality and congestion could be more effectively reduced by other means. Radical policy shifts to limit automobile use--a dollar-a-gallon gas tax, a charge for driving in congested or polluted areas, downtown parking restrictions, parking taxes-have been regularly proposed and rejected for decades. What is certain is that the costs of existing transit systems will annually far exceed their revenues. Each year subsidies will be needed and will be the subject of heated debate. Estimates of social benefits can help resolve arguments about whether and how much subsidy is appropriate--particularly if other major public expenditures are similarly evaluated.

My focus is on the commuter rail operations of one of the nation's largest public transport agencies, SEPTA, the Southeastern Pennsylvama Transportation Authority. The SEPTA system faces problems similar to those facing systems in older urban areas--MBTA in Boston, Metro-north in New York, New Jersey Transit. In 1989 the SEPTA farebox covered only 37 percent of costs--roughly the same portion as other systems nationwide--and operating subsidies were nearly $100 million a year.

Rail systems in general, and in particular the commuter rail systems serving low-density areas, have the highest--and most heavily attacked--subsidy rates of all mass transit. It is here that the potential for wasteful subsidies is greatest and that the need to value benefits is particularly important.

MEASURING SOCIAL BENEFITS

Five benefits are clearly attributable to the commuter rail system. First, when traffic is diverted to commuter rail from automobiles, accidents decrease. (The incidence of transit accidents themselves is far less predictable than highway accidents. Serious accidents, however, are infrequent and idiosyncratic. In 1989, for example, there were no fatal accidents on SEPTA commuter rail and a total of only 46 collision-related injuries.)

Second, reduced road congestion shortens automobile commuting time, a benefit reflected in the familiar drop-off in house values as commuting distances increase from the city center. Third, downtown noise and pollution decrease. Fourth, congestion on alternate transit facilities decreases. And, finally, the welfare of the commuter rail riders increases.

Many transportation analysts believe that the benefit to commuter rail riders in excess of the fares they pay--known as "consumer surplus"--outweighs the losses of the transit system. In the case of SEPTA, this turns out not to be true. Social benefits would not exceed subsidies were it not for the additional benefits to the general public.

Putting a dollar value on these social benefits requires calculating how much beneficiaries are willing to pay for the indirect benefit received. Table 1 shows, in 1989 dollar terms, the estimated value of the five major social benefits from SEPTA for the years 1981, 1982, and 1989. (Table 1 omitted) (The two values given for each benefit each year reflect alternative assumptions about underlying magnitudes or alternative estimating procedures.) In 1989 social benefits exceeded the subsidy by $39-75 million; in 1981, by $11-31 million; in 1982, by $20-34 million. Even the more conservative assumptions yield positive gains for society despite the huge subsidy. In the early 1980s, about two-thirds of the benefits not covered by fares accrued to the general public and only one-third was consumer surplus for the rail riders: in 1989 the two were about equally divided.

The increase in the estimated benefits from the early 1980s to 1989 is largely attributable to the substantial gain in the value of access to the commuter rail line as reflected in housing prices (line 5 of the table). The oil price shocks of the 1970s increased rail ridership, as did the growth of the downtown in the 1980s.

Another important influence on the net social benefits was SEPTA's cost-control efforts. During 1981 and 1982 Conrail (reluctantly) operated the Philadelphia commuter rail system. In 1983 SEPTA assumed full responsibility for its commuter rail services. Generous federal subsidy guarantees had given Conrail little incentive to reduce costs. After SEPTA took over, incentives to control costs increased substantially: the federal contribution to subsidies declined from nearly 50 percent to about 10 percent. Between 1981 and 1989 SEPTA's real costs fell by 5 percent. As a result, although real revenues fell, the required subsidy grew only 16 percent, and net benefits from the system increased two-to threefold.

TOUGH DECISIONS

In trying to make sense of the highly charged ritual attacks on public subsidies, the analytic challenge is to identify and value the social benefits. The practical issue facing public decisionmakers is that social benefits are difficult to explain and subsidies are unpopular.

Those who run and finance the more than 500 mass transit systems in the United States repeatedly face these issues. Should public transit be expanded or cut back? Are the current subsidies too large or too small? Would the community be better off if more riders were enticed to ride the trains? And the everpresent question: why don't fares cover costs, no matter how many times they are raised?

In the case of Philadelphia, it is clear that commuter rail, operating at its current level, generates benefits substantially greater than its costs. If public officials decided to phase out commuter rail in the Philadelphia region, the community would be far worse off, unless some better means to achieve the social benefits were found.

CAPTURING THE VALUE OF SOCIAL BENEFITS

The problem for public policy is that although social benefits are real, they are not translated into transit revenues. No doubt the social benefits of transit systems are reflected in the willingness of homeowners to pay higher prices for houses near train stations and in the development of property in the vicinity of new transit facilities. But these benefits are realized by landowners and developers, not by the transit authority.
If transit authorities could capture this property value enhancement, the required subsidies would be much lower. It is virtually impossible for older systems to capture the value they generate. Development has already taken place, and the original landowners and developers have already reaped the gains. But new systems can use a variety of measures--joint development ventures between the transit agency and private firms, value-capture taxation on new development, and tax-increment financing, to name just a few.

John Landis, Robert Cervero, and Peter Hall, of the University of California, Berkeley, have identified 114 transit joint development projects in some 25 American cities as of October 1990. The projects have not yet resulted in much income to the transit authorities, "either through capital contributions or through yearly lease payments," say Landis and his colleagues, but experiences vary.

Since 1984 New York's MTA system has financed an estimated 3-5 percent of its capital expenditures through joint development projects. Washington's Metrorail, one of the most innovative and active joint-developers, has financed less than 1 percent of its capital expenditures since 1979 in this way--all though the period has seen major capital expansion. Washington's "Metro" receives $1.6 million a year in lease fees from Bethesda Metro Center, as well as smaller sums from a host of other projects at Metro stations. Nonetheless, "such payments have never amounted to more than 0.7 percent of annual operating expenses," say Landis and his colleagues. They identify only six systems that pursued joint developments yielding such annual payments.

They suggest that transit operators may just be beginning to move "up the learning curve" in these matters. In the past transit authorities have neither pursued value-capturing projects with sufficient entrepreneurial vigor nor extracted sufficient revenues from them. If Landis is right, we will see more such projects, and transit officials will make better deals in the future.

If public authorities could make all beneficiaries pay fully for the benefits they receive from the existence of the transit system, the problem of subsidies would disappear, at least where social benefits exceed costs. If SEPTA could tax the substantial benefits it provides in the form of increased land value that now accrues to the landowners, the subsidy picture would look far different, and the decibel level of public discussion would diminish considerably. With only limited value-capture possible, efforts to contain subsidies will have to continue to concentrate on reducing inefficiency.

WORTH EVERY PENNY

If the repeated and rancorous battles over transit subsidies succeed in seriously dimimshing transit service, the loss may extend beyond those who rely on commuter rail. In Philadelphia, at least, and perhaps in New York and Boston and other cities as well, the general public gets more than its subsidy's worth from the fact that others ride the commuter trains.

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RIDERSHIP DECLINE

Mr. **Carr.** The survey also noted that the decline in transit is not limited to certain parts of the country. Apparently, it is widespread. Transit ridership declines were greatest in the Northeast and the South, according to the author.

From 1985 to 1989 their percentage losses were 9 and 8 percent, respectively. At the same time, total workers in the Northeast and the South increased by 5 and 8 percent, respectively. Overall do you agree with the analysis of the Personal Transportation Survey?

Mr. **McManus.** Well, I have to agree with the factual analysis, but actually bus service has grown since 1980 in terms of passenger miles. It has grown by one-fifth. Rapid rail has increased in terms of route miles as well by some 30 percent, commuter rail some 15 percent. This has had an effect on ridership.

Mr. **Carr.** But the ridership is declining. You have more available seat miles, but your so-called passenger revenue miles are down.

Mr. **McManus.** The passenger miles have increased by about eight-tenths of a percent a year in the numbers that I have seen from our planners in putting together the report on the condition and performance of transit that we have to do every two years, and it results in about, then, an 8 percent increase over ten years, so when we talk in that report about maintaining the condition and the performance of transit, we are talking about at least maintaining that growth trend in passenger miles, and as I point out, there are economic benefits that are hard to get at where assumptions have to be made about the premises for the benefits in order to even get at them.

TRANSIT GOALS

Mr. **Carr.** That is a problem we are having. The fact is that we want to measure economic output and economic impact, and you can measure certain things like air quality and its contribution, et cetera, but if it is not measurable, then, from the standpoint of this committee's requirements to dole out or invest scarce dollars, it is very hard to engage in some kind of a fuzzy-headed, well, it is good for the community, let's do it kind of thing.

We don't have enough dollars for that. If we did, we would do it, but we don't have enough dollars, so we have to be a little more tough-nosed about how these things are played out. It seems to me that the transportation survey augers at least for making the systems that we have the best they can be, and perhaps helping them promote the services that are the best to the people they serve. One of the problems that we have and you have is that we get pleaders coming to us from every nook and cranny of America looking for a light rail system because they think it will enhance the community's prestige or somehow or other it is the only avenue to get big Federal dollars into their community for whatever purpose they have in mind, usually local immediate job creation. We need to get an overall sense from the administration, and here it is regrettable that we don't have a nominated and confirmed FTA administrator who can translate the policy, but we need at some point with your help, we are going to need to get an overall view of just what our goal is. Is it to spread more light rails around the country or is it to make the systems we have in the densest, most transit utilized areas the best it can be?

My sense is that we just haven't really crystallized this goal, unless you can tell me that something has happened down at FTA that I am unaware of.

Mr. McManus. Well, I can say this, that if you look at the budget request and the capital portion of it, although the new starts category gets a lot of visibility and a lot of hype, new starts funding really makes up not more than 25 percent of this budget for capital. This includes all accounts, not just the new start category in Section 3, but part of the Interstate Transfer Program and the funding for WMATA. Therefore, more than seventy-five percent of the capital investment proposed in this budget goes for maintaining existing infrastructure in the old integrated rail cities and in the bus systems throughout the country, so that really is where most of the money is going, notwithstanding the hype about new construction. And there is a reason for it.

I talked about vulnerable groups, but the other dimension of that general welfare perspective is the vitality of the cities themselves. How could some of these cities function well without maintaining well this infrastructure for transit? The New Yorks, Chicagos, Philadelphias, Bostons and so on, they depend on this infrastructure being well-maintained, being vital, and being able to be extended in some respects to make their areas work. I think the torque in favor of those categories of Section 3 indicates where this administration is coming from.

Mr. Carr. Like I say, I appreciate that. I am wondering if it is enough, but we will see. I just want to note for the record the presence of my good friend and former colleague, Carl Pursell from the State of Michigan, a member of this committee, a member of the full committee, and a member of this Transportation Subcommittee. I acknowledge the great contribution that he made to the country in his years of service and just say that we miss having you around.

Mr. Pursell. Well, thank you, Mr. Chairman. I came over on Metro from National Airport, and I have had a nice enjoyment here today, Bob, sitting on the Majority side. I never had that opportunity for 16 years, so it has been a good day for me already in my first time back since retirement, but it is nice to see all of you and thank you, Mr. Chairman.

Mr. Carr. You bet. Nice to see you.

Mr. DeLay, do you have any questions?

HOUSTON METRO

Mr. DeLay. I have a few, Mr. Chairman.

Mr. McManus, good to see you. I am not sure I know where to start. I am sorry I missed the first 30 minutes of the Chairman's questions and comments, although I think I know what they were about. Mr. McManus, let me start by being parochial because I am very concerned about several issues regarding Houston METRO. First off, I appreciate the $188 million in unobligated funding finally being allowed to be obligated, but I am concerned about our past experience over the last few months, and I am also concerned by the report on funding levels and allocation of funds. My concern is that I am not sure FTA understands what Houston is doing. As I read the report, the FTA has recommended $5 million to be earmarked for Houston METRO. I am really concerned, about this request. I understand that there has been a change in the administration, not having a formally appointed administrator may be part of the problem. However, when you only talk about regional bus plan is the Houston mass transit plan or mobility plan, that is not what Houston is all about.

Houston certainly is being very aggressive about a regional bus plan, but that is just part of an overall mobility plan. It is a major part, but it is only one part of an overall mobility plan, that includes, intelligent vehicles, expanded and improved transit way systems along with a possible future rail component all interconnected with toll roads and just about every known piece of transportation system integrated together and working together along with the authorities that have transportation responsibilities.

Houston will obligate over 70 percent of that $188 million by the end of FY 93, and by the end of 1994 will have obligated the rest plus the $40.5 million they have requested. Let me say that I am very much in accord and agreement with the Chairman of this committee that we ought to be very careful about earmarking funds to authorities when they can't obligate. When Houston started its program years ago, the idea was to spread the cost of the mass transit system over a number of years so that you don't run into spikes that create difficulties for other systems, but now because of the demand for monies that really aren't there, the Chairman has decided to go with only earmarking that amount that can be obligated. Houston understands that, and that is why they had requested $40.5 million over 1994 because they feel very comfortable that they can obligate the entire $188 million plus the $40.5 million by the end of FY 1994.

I don't know that I have a particular question based upon that statement other than to say that I think Houston has a unique system. As far as I can tell, METRO has the only real complete system with different transportation authorities working towards one planned mobility system, one that not only provides bus service but that complete package that fixes streets and builds sidewalks to move people and goods around the City of Houston. They, being Houston METRO, and I view this as a function of the mass transit system, and recently, after a great deal of prodding, the FTA released Houston's monies.

I attribute this long wait to the fact that Houston's system is so unique. Do you feel that a system such as Houston is more efficient and cost-effective than other cities that don't have a comparable complete mobility system?

Mr. McManus. Mr. DeLay, we have always supported the Houston focus on making the best possible use of the existing highway network and expanding it for optimum use by bus service. My own office has fostered that as an option, and strongly supported the Houston plan, and we do today, and the hiatus in the making of that grant caused a lot of commotion, but actually it was nothing more than trying to nail down the scope clearly and being mindful of provisions in the law that absolutely preclude us from street investments unless it can be shown precisely how they focus on transit. That was difficult to do. That is the only part of the proposal that we had any problem with. It had nothing to do with, I don't mind saying, the interregnum or the absence of a Presidential appointee. We were working closely with the former administrator and focused him on some of these problems, and also on the benefits of this system. We are strongly for it.

The report you mention, the $5 million, is only meant to indicate that we have a long term commitment to Houston. Along with that $5 million was a statement that we advocate the issuance of a letter of intent and then ultimately getting into a full funding contract for the entire regional bus program on definition of more clearly what the full scope of it is. I have heard the statement from others in Houston that—not in Houston, I have heard from their representatives here in the city—I don't mean elected representatives—that 70 percent of the money will be spent in the coming fiscal year. That doesn't hold up against the input we have had from the Houston transit authority, based on the preliminary engineering grant that we made several months ago, where we asked them to lay out the scope.

Some of these projects under the $188 million first element that we have just financed, don't really begin to come to fruition until 1995. They go on through 1998, and some of the spending doesn't occur until a few years after that, so we don't see that representation holding up based on what we have had from the authority itself, but we are not concerned about that because we are committed to definition of scope on the whole plan and then a letter of intent about the whole schmear, so we are in favor of this system.

We do know Houston, and it is too bad that there was this furor. Maybe it is natural in a transition time, but I can assure you there was no turning back from a direction that we had been pursuing with you for the last couple of years. I recall, I think it was two years ago you and I had a little give and take at the hearing about the future direction of Houston's major spending when their rail planning hit a snag and you were asking about the bus plan, and I indicated then that we thought it was a good idea, and it was perfectly eligible for the earmarking that was available at that time.

HOUSTON OBLIGATION RATE

Mr. DeLay. Well, I am glad to hear you say that. Maybe we need to get you a letter from Bob MacLennan General Manager of Houston METRO because Mr. MacLennan told me directly that 70 percent didn't come from representatives here in town, but would be obligated. Maybe we need to clear that up. I am glad to say that—stated in their plan in testimony before this committee, they state over 75 percent will be obligated; maybe not spent. Maybe that is the difference.

Mr. McManus. Well, no, there is a little bit of both, I guess. We are aware of that testimony.

Mr. DeLay. Did you find, and I appreciate your being frugal and looking at things, but do you find there are things in the law that precludes or at least inhibits new and innovative ideas that maybe we can take a look at?

Mr. McManus. Well, I think we can—I think there is a license to do a lot of innovative things within the structure of this act, our own act, and the ISTEA. There is all kinds of transferring available. For example, in the Houston case there would have been absolutely no question about any of the things we were questioning if that part of the plan were financed with transfers from programs in the highway title, not the whole business but just that part, so I don't think at all that the legislation is restrictive of innovation. I think we have a new lease on life with some of the provisions that are in the law right now.

Mr. DeLay. Well, I am just really concerned, particularly when we look at funding stream as planned by Houston METRO asking for $40.5 million for 1994, if this committee only earmarked $5 million, then if the funding stream in 1995 and 1996 or the goals of Houston METRO are in fact $97 million, in FY 1995, and almost $70 million in 1996. That is going to create a spike that is going to make it difficult on this committee and on FTA in 1995 and 1996 to fund METRO when Houston is really into the throes of making large expenditures.

Mr. McManus. I think that really what is going to have to be dealt with is the fact that some places may need more money at a given time than others. There may be a spike here and not one over there, and then a year or two later the spike is over there and not over here. That is the way this account, I think, has to be managed. What has been happening is that grantees have been coming in, I believe, and trying to get on the board, and building up equity in the form of earmarks until the time when they were ready, and there were really too many places on the board.

You can confine the case load and deal with it in drawing down the authorization level and not hurt the projects that are meritorious and that are ready to go such as the Houston project. We do think that the—I don't want to belabor the point. We do think that the $188 million which is doubled, of course, with the 50 percent match by Houston, so there is almost $400 million, is sufficient though you are saying it can be spent in one year. We don't see that in the paper we have had from Houston, so I think it is totally reasonable to say for one year we get together and see what the scope of the future system is going to be and then the following year is another story. That is the intent.

Mr. DeLay. Well, frankly, I agree with you. In fact, that is what I told Houston METRO when we were discussing what we were going to request of the committee. I told them that you don't come to the committee with any more than you can obligate in 1994, and that is what they have put together. We will just have to work on it and show you that they can obligate those funds.

Mr. McManus. Okay.

TRANSIT LABOR COSTS

Mr. DeLay. One of the primary causes of the rising costs of public transit is rising labor costs. There was a 1983 study that found that 46 percent of the rise in operating costs from 1970 to

1980 is attributable to increases in labor costs above inflation. This was the only study I could find dealing with labor costs.

Do you feel that that is true today?

Mr. McManus. Did you say 1970 to 1980?

Mr. DeLay. Yes.

Mr. McManus. It has been in the 1980s where those costs have been constrained. I don't think that that trend has been anywhere near as robust in the 1980s as it was in the years before. I haven't dwelt on these numbers, but my impression definitely is that transit has had a much better experience in dealing with that problem in the last ten years.

Mr. Spencer. Mr. DeLay, if I could add, the transit vehicle operating costs per revenue hours stayed around $80 per hour over the last five years, 1985 to 1990. They have done a very good job of containing costs.

Mr. DeLay. Public agencies, though, are saddled with labor contracts that include expensive work rules. For example, most transit labor contracts severely limit or even prohibit use of part-time labor, even though part-time labor would be an efficient way to increase transit service, especially during rush hours. Unable to hire part-time workers, transit systems are forced to ensure that enough capacity is available at morning and evening rush hours by keeping full-time drivers on extra long shifts for which overtime rates are paid.

During the day's nonpeak hours, of course, these drivers aren't needed, yet continue to get paid. Could you shed some light on just how much labor contracts cost, these kinds of labor contracts cost the transit system?

Mr. McManus. I would have to do that for the record, I am afraid, but again my impression is that the contracts with labor have opened up and allowed certainly the use of part-time labor that became a lot more widespread than it had been in earlier years, but to get to your key question, I would want to submit something for the record.

[The information follows:]

The FTA does not keep information on transit labor contracts and how many of them permit or prohibit part-time labor. However, a review of the latest FTA Section 15 Transit Database shows operators wages, for systems operating more than 25 vehicles, as $2.5 billion with $0.22 billion (8.6 percent) used for overtime and premium costs.

Mr. DeLay. Mr. Chairman, I will come back later if I could.

Mr. Carr. You can go on.

TRANSIT INVESTMENT AND ENVIRONMENT

Mr. DeLay. Well, I think the Chairman has talked about ridership, but there is a couple of questions I want to get into. Frankly I believe that we are moving in the wrong direction in this country by pushing extensive mass transit systems especially rail mass transit. Mass transit systems are not necessarily, in my opinion, the cure all for all of the transit problems and pollution problems. In fact, as the Chairman may have alluded to, I believe factors such as the ridership costs and energy and environmental concerns sometimes are overestimated.

I found in our monorail debate in Houston the proponents of monorail relied heavily on the argument that putting monorail in would greatly enhance or greatly reduce pollution in Houston, but when many studies were made, the monorail in Houston would have reduced pollution by 0.1 percent. Federal subsidies to States and localities for urban mass transit systems continue to increase. Is it a fair statement that Federal subsidies to States and localities for urban mass transit systems have failed to reduce traffic congestion and air pollution or save energy?

Mr. McManus. Well, I would say, I would agree with you that the connection between transit investments and air quality improvement and energy savings and even congestion are logical to make, but they don't stand up too well under rigorous analysis, but there is a connection. You can estimate benefits, but they are not as impressive as some of the other benefits of transit investments.

Mr. Carr. Will the gentleman yield?

Mr. DeLay. Yes.

Mr. Carr. I think you made a very important statement there, and just for emphasis I would like you to say that again.

Mr. McManus. Well, it isn't new—I will be glad to say it again if I can remember what I said. We have been saying this all along. We say it in our written stuff, profiles here and there.

Mr. Carr. Isn't it a point of fact——

Mr. McManus. It is a logical connection to make, that between transit and air quality, energy savings. It doesn't do well under rigorous analysis. That is just the fact. There are all of these public policy purposes, Mr. Chairman, apropos of what I said earlier, which sort of focus on this general welfare dimension of transit. Some of the specific public policies are more cogent, more telling than others.

Mr. Carr. If the gentleman would continue to yield I have asked the staff to look through the 3(j) report, and in virtually every single one, whether it is Dallas-South Oak Cliff, Los Angeles-MOS-2, St. Louis-Metrolink, San Francisco-Colma Station, down through Atlanta, Jacksonville, Los Angeles, New York, Portland, Baltimore three grants, Chicago, one; Honolulu, which is probably pitched by now, Houston, Orange County, Pittsburgh, Salt Lake City, San Francisco, San Jose, Boston, Cleveland, there isn't a one where you say that there is a positive or a meaningful environmental impact. And then in the time we had here the staff went through four other ones—Austin, Dallas, Denver and Kansas City—and found that your 3(j) report cited no data, so this is one of the things that this committee fights all the time.

We have people coming in extolling great environmental virtues for all of these things, and they may have virtues, but environment, it appears, is not one of them, and you agree with that.

Mr. McManus. It is not that impressive. We are required to deal with it. There is a consciousness raising about it in the ISTEA legislation.

Mr. Carr. Thank the gentleman for yielding.

Mr. McManus. And it is relevant. I am not saying it is not relevant at all.

TRANSIT RIDERSHIP

Mr. DeLay. Transit systems, it seems to me—well, let me just ask the question, and I think you got into it with the Chairman a little bit earlier. It is my understanding that public use of mass transit has fallen by 2 billion passengers since 1960, despite a taxpayer investment of over $100 billion during that same period of time. Is that true?

Mr. McManus. Well, it leveled off, though. I would want to check the exact number. It certainly was in a decline, and then with the beginning of the transit program what happened was that that decline stopped, and while we haven't gained market share, what we have done is maintained absolute numbers and we actually—the actual numbers went up some, although market share didn't go up.

[The information follows:]

The FTA (then UMTA) program started in 1964, and the first outlays of $47 million were realized in 1965. At that time, 8.3 billion passengers boarded transit vehicles nationwide, in all modes. Transit patronage fell to 7 billion in 1975, which was its low point. By that year, the FTA program had grown to $2.443 billion. Today, transit patronage is back up to 8 billion passenger trips. A decline that had begun in the mid-1940's was halted in just 15 years, from 1965 to 1980. Transit has undergone significant growth in the extension of transit service to larger geographic areas between 1980 and 1990. Transit bus route miles grew by 24 percent, while commuter rail route miles grew by 15.6 percent and rapid rail grew by 27.5 percent. On a passenger miles basis, mass transit patronage increased by 8 percent from 35.2 billion passenger miles in 1980 to 38 billion passenger miles in 1990. This includes rapid and light rail transit patronage which increased over 30 percent in that period. By comparison, carpooling suffered in both share of trips and in absolute numbers, declining by 12.3 percent between 1983 and 1990 in person miles per vehicle mile.

Mr. DeLay. Then the transit systems—I am under the impression that they haven't reduced congestion, either. Multibillion-dollar-rail systems have not diverted meaningful numbers of drivers from out of their cars on to the rail system. Most new ridership has come from less expensive, more flexible buses and car and van pools. Is that a fair statement, and if so, do you believe that there are rail systems that could be closely scrutinized for their viability given the flexibility of buses and van pools?

Mr. McManus. We have always felt that way. We felt that the Federal Government should be indifferent to the mode chosen and be focused on the mobility objective, on the service purpose of transit, and where rail makes sense, why, that is where it ought to be used, and it does make sense in a lot of places. I just make a point because there has been a lambasting of the program to some extent about cost-effectiveness.

I had our planners do some charts on the spending for new starts over the past several years, since 1988, and even though some of the resource went to places where the fixed guideway, the rail system wasn't cost effective, almost 90 percent of the monies spent, the actual dollars spent, were spent on systems that met our cost-effectiveness criteria. When you look at the existing case load, prospectively that percentage comes down. It is somewhere around I think 70 percent. I had to estimate it off of the chart. I didn't have a table. But I think that does show that the actual dollars that have been made available to new systems have been well-used in the aggregate. Even though there may here and there be a small number of systems that have consumed some of the dollars, but in the aggregate they don't affect that general conclusion.

RIDERSHIP ESTIMATES

Mr. DeLay. Well, most cities that have constructed expensive new rail systems during the past 15 years have dramatically overestimated the ridership. We have a table that shows projected versus actual ridership in nine cities with rail systems built with Federal money. Ridership fell below those projections in every one of those cities, and only one achieved even half, only one achieved even half the predicted ridership level.

Why are those estimates so far off the actual ridership figures?

Mr. McManus. Well, demand forecasting is about the hardest thing to do in transportation planning, and we commissioned a study on that a couple of years ago, I believe three years ago, where these facts were brought out or similar facts. We tried to get to the heart of why this is the case. It was hard to nail down.

The expert who did that review or the researcher talked about compounding optimism. You compound optimism about ridership estimates and then also about costs by saying the costs are going to be less than they are, but the other factor is that support of public policies pertaining to parking and fuel costs weren't there. Parking still gets heavily subsidized in places where if it weren't, why, your transit function could do a lot better and your ridership could benefit more. When you focus with grantees on these things, the use of local ordinances and zoning and traffic regulation and congestion management, it is very hard to get that performance and to hold them to enforcing those kinds of policies. All of that has affected ridership forecasts.

INCENTIVES TO USE TRANSIT

Mr. DeLay. I think you know where I am going and what I am getting at. I am not criticizing FTA. In my opinion, it is the law or it is a function of not understanding the system. It is a mind set, if you will. For so many years we came in and built the Cadillac of transportation systems and hoped the riders would come. We put no restrictions on them. We didn't mandate, for instance, even local dedicated tax funds for operation or a large enough share. We have got in some cases allowing cities to give you an old torn down bridge as part of their local share. Looking in from a business point of view, and maybe it is my business background that makes me so proud of Houston, they started from what I think is the idea of trying to entice people out of their cars by giving them incentives to put more people in a car, van pools and car sharing and stuff like that, then working into a bus system that runs along transit ways. If people start getting used to using the bus system and it is cost-effective, you can lay rail in those transit ways and put in the more cost-effective, if you have riders, rail system rather than starting at the top, building a rail system and hoping they will come. It hasn't worked, and what I am getting at is do we need to tie strings?

I mean, if you are going to build a rail system, then eliminate your parking or do those kinds of local policy decisions. Otherwise, you are not going to get Federal funds because we know now after all these studies have been done what should make rail systems effective, and part of it is a large local share, part of it is policy decisions in the cities. If you are going to have a rail system you entice people into it by eliminating parking and doing some other things that naturally drives them into the rail system or we don't build it, we go the other route.

Mr. McManus. Well, we haven't mandated those things. We have accepted representations about intent to follow up land use policies and so on, and in many cases where we have done that we have seen evidence that there is good faith. Then in the political process sometimes things fall apart, and the question is how effective can you be. These are clumsy programs, and you do a lot by persuasion and broad policy definition. You do count on good faith response and performance by local players, but we never have gone so far where we have required a use of the local ordinances and zoning authority before we made a grant.

FLEXIBILITY UNDER ISTEA

Mr. DeLay. I appreciate the Chairman's time. In the intermodal bill, transit can tap highways for up to $10 billion, the way I understand it. This allows for flexibility, and I understand the argument, but Wyoming, for example, has no use for transit money but welcomes highway money. They have asked for a transfer from highway. New Hampshire, Vermont, Connecticut and Massachusetts, on the other hand, are attempting to argue that they can't build any more roads and are asking for a transfer from highway to transit.

What is happening here? Will we ultimately see all of the $10 billion allowed under ISTEA transferred from highway to transit? Are there any requests to transfer from transit to highway?

Mr. McManus. There has been no transfer from transit to highway because the money that is available was Section 9 capital, and in my statement I point out that has been declining over the past several years, and the discretionary resource Section 3 is not available for transfer. We proposed that it be in the ISTEA, but it was not done.

Mr. DeLay. Has anybody requested transfer?

Mr. McManus. Not of the transit money to highways. We have had some transferring, a little over $300 million from the highway title programs to transit in the last fiscal year. So far this year something like $168 million has been transferred to transit, and we expect that it will be at least $300 million before the end of the year. There is a lot of potential for more transfers, although it has been slow going. Still, we were encouraged that in the first year, on learning about this opportunity and getting information about it, local authorities did show some ingenuity and got together and made some changes in their program planning to get at that resource.

I know Dean Carlson, a colleague in the Federal Highway Administration, certainly thinks that we will see more of this as time goes on and as the bureaucracies get more accustomed to what really is there and the way it is supposed to work.

Mr. **DeLay**. Thank you, Mr. Chairman. I appreciate all the time.

Mr. **Carr**. The gentleman from Pennsylvania.

ADA AND CLEAN AIR ACTS IMPACT ON OPERATING COSTS

Mr. **Foglietta**. I thank you, Mr. Chairman. Gentlemen, I am told that the increased operating expenses placed on our Nation's transit authorities from Federal mandates enacted since 1990 will vastly exceed the $802 million now appropriated for operating subsidies. The annual operating assistance necessary to meet the new drug and alcohol testing requirements, ADA service enhancements and the operating costs associated with the Clean Air Act amendments could force transit agencies to cut existing service in order to meet these program goals.

Could you provide us with department estimates as to the increased operating costs expected from implementing these programs?

Mr. **McManus**. I will be glad to speak to that a little bit and then also possibly supplement my remarks for the record. There is no question that there is an impact on operating costs by virtue of these laws. The ADA, the Americans with Disabilities Act, is estimated to foster increased expense because of the paratransit plans, complementary paratransit plans to fixed route bus systems, ranging from $300 million a year to $700 million four or five, six years down the line when these paratransit plans have to be fully implemented.

Of that amount of money, roughly 85 percent is estimated to be operating costs so there is definitely that effect. Those are squishy numbers. They are derived from research and we will get a better fix on them as we see more input from these paratransit plans year after year. They have to be updated every year.

The Clean Air Act costs are more tenuous, but they are real nevertheless, and they depend on what is ultimately called for to respond to the requirements. The additional fuel costs could run anywhere from, I think, $80 million to $300 million annually, depending on the propulsion system that had to be used, and the increased annual capital costs, anywhere from, I think, $45 million to over $100 million, so there are these effects that we see so far from the Clean Air Act. I don't have a fix on the costs from the Energy Act, but we don't deny that there are these cost effects caused by Federal mandates, and that is part of the representation in this budget request that we do advocate more capital investment, more capital resource for our formula program, which would spread the resource around to the greatest number of places to help cope with these needs.

INCREASED OPERATING ASSISTANCE

Mr. **Foglietta**. Some transit advocates have strongly recommended increased operating assistance, and that the increased amount be placed in the separate fund to be targeted specifically toward meeting safety, ADA service, and Clean Air Act requirements.

What is the agency's view toward increasing operating assistance for these purposes? Would you have any suggestions from where these funds could be transferred to pay for any increases?

Mr. McManus. I have seen that policy piece by labor, and I would say that if I had to make a case for operating assistance, that would be the way I would try to do it. I am here to represent and advocate the administration's position in this budget request, which is that we are proposing that the cap, the existing cap, the $802 million be utilized and be the amount limited for operating assistance. Certainly the administration was conscious of the ISTEA which allows the cap to escalate with inflation for all size places, but did not do that, and I really think that there is no policy design right now for the Federal role in operating assistance if you look at the amount that is there, $802 million. It is 5 percent or less of the aggregate amount of operating costs in the transit industry, and for large places it is less than that. It only gets up to 20 percent in the very smallest places, so you could say that just by maintaining the cap of $802 million that should represent the Federal Government's recognition of the costs, the operating costs caused by these Federal mandates.

Otherwise I think it is hard to see what the policy design is for what we have now.

Mr. Foglietta. As I understand it, you are saying that the caps hold the spending down to $802 million, even though there was a pretty strong increase in all Section 9 funding, but that operating assistance be used for the mandated additional expenses?

Mr. McManus. It is not an increase. I will certainly concede that. I am only saying that that may be a reason for there being any Federal money spent for operating assistance as these costs emerge in the next several years. Because we certainly don't have a perspective on what amount of total operating costs of transit should be borne by the United States Government. That has been absent for many years.

Mr. Foglietta. I understand that. Do you feel personally that the allocation is a fair allocation?

Mr. McManus. Yes, I do. I think that the focus on capital investment is a much better one for a national program. It is more manageable.

And it keeps us—even though it doesn't do it entirely—from meddling in operating policies that are really the prime business of local authorities. But if we ever had a major role in operating assistance, why there would be tremendous increase in complexity, I think, in managing the program and the expectations of it.

FLEXIBLE FUNDING—MPOS

Mr. Foglietta. Your budget request—you include $38 million to aid MPOs. I understand that only 3 percent for highway funding eligible for transit use has actually been used for transit purposes. What are you proposing to do to work better with MPOs to take better advantage of flexible funding? And what are some of the barriers that you perceive that prevents them from so doing?

Mr. McManus. That is precisely one of the reasons why we want to see the MPO resource keep pace with the increase in the size of the budget because we do have to join hands with the Highway Administration, which does enjoy a proportionate relationship of their planning resource to their capital resource.

And the ISTEA itself spells out a host of objectives—in fact, it is rather overwhelming what we have to keep up with. So that is the reason that we want that increased resource.

INTELLIGENT VEHICLE HIGHWAY SYSTEMS

Mr. FOGLIETTA. According to an FHWA report, between 1980 and 1990 the percentage of commuters using single-occupancy vehicles increased from 64 to over 73 percent. Meanwhile, the percentage of commuters using public transit declined from 6.4 to 5.3 percent.

In working with our Chairman, I have learned that the intelligent vehicle highway systems use advanced technology to enhance people's mobility. How can the application of IVHS technologies improve the quality of public transit and increase transit's attractiveness as a transportation alternative?

Mr. MCMANUS. I think I would like to have Larry Schulman, our associate administrator for technical assistance and safety, speak to that.

Mr. FOGLIETTA. I would also like to ask what are the FTA's policies or priorities toward IVHS and how do you choose the projects which receive this funding?

Mr. SCHULMAN. Thank you.

I think one of the ways that the IVHS technologies and the program that we have developed which is called APTS, Advanced Public Transportation Systems, can assist in this, is by improving the operations of transit services, and the usage and user friendliness of transit activities, and also public awareness.

The Chairman, before you got here, was talking about the fact that the transit systems don't advertise as much as they possibly should. Advertising is one way of promoting a transit service. And, certainly, APTS allows that to happen.

But let me be a little bit more explicit. As far as operations are concerned, it is probably the arena that the transit properties have moved into most quickly. They see this as an opportunity for improving their operations for better management of their fleets both in terms of on-the-road activity as well as maintenance.

These technologies that we are talking about, locate the vehicles, identify bunching and allow a spreadout of the services if there is some breakdown in service accident. They know exactly where the vehicle is, and a second vehicle can be brought out to pick up the service.

As far as passengers are concerned, transit is a service. It is a commodity that is being offered to individuals. And is it really user friendly service? Do people understand transit? Do they know what the fares are? Do they know where to find service if they are interested in using transit? We think that this program does provide this opportunity—the APTS projects and APTS technologies do provide the opportunities of making information available to people, whether they are casual users or even full-time users, to know if there are any problems in the systems, know what their alternatives are, know whether they want to take a bus or the rail or, alternatively, use their cars as well.

A casual user just doesn't know where to start. And some of the technologies that we use to call up and find out which bus can take you from A to B, are just not as efficient as they could be if using some of the advanced communications technologies.

Because that is really what IVHS is about. It is using some of the sophisticated communication technologies that are available and applying it to the public transportation arena. What is a little bit different in our program from the highway aspect of the program—because a lot of the technologies are similar and if we talk about the vehicle locator systems, it is not more difficult to locate the trucks in traffic or the transit buses in traffic—it is really using these as a mechanism for changing the way people travel.

And I think that is what is unique about FTA's aspect and their role in this program. The Highways's aspect is to improve vehicular movements while they are in the flow. But we are trying to impact on people before they have made a decision on how they are going to travel and, hopefully, to get to this question of the modal split, the way people travel that we were talking about in the ridership dialogue.

The fact remains that fewer people are using public transportation as the number of trips are increasing. What we are trying to do is use this technology to get more people into the public transportation arena.

Now, the second question that you asked was one of prioritization. There are two elements of the program that apply to the whole IVHS arena. One is the research program and the other one is the capital program itself.

We use two mechanisms for getting information from individuals and from transit properties, as to how much money they think we should be investing in this particular area. One is we have held a series of workshops on priorities set up along different target areas, and one of the areas in which we have people discussing priorities is in the IVHS–APTS area.

The other mechanism is using IVHS America, which is an advisory committee that was set up for the purpose of advising the Federal Government on priorities in the IVHS area. There is one committee that is set up, the APTS committee, that is the forum in which individuals come forward and try to assist us in prioritizing the investments.

The other funding stream is the capital program. These projects do require a capital investment. And we are finding that more and more transit authorities are actively involved in the application of these systems. The Automated Vehicle Locator (AVL) systems we have projects—some of the older projects not using the state-of-the-art technologies—are in San Antonio and Norfolk and Seattle, and projects using this GPS, the Global Positioning Systems, these are now being considered in Milwaukee and Baltimore. New York City is looking into it, also Los Angeles and Miami. So we find that there is a lot of interest.

And it is really a self-perpetuating priority as people become more and more aware of the opportunities that these technologies offer to them in terms of operations and reduction of costs.

Mr. Foglietta. I thank you so very much. Thank you.

Mr. Carr. The gentleman from Virginia.

FOREIGN PARTICIPATION IN FTA RESEARCH

Mr. Wolf. Thank you, Mr. Chairman. I apologize for not being here. I was at a dedication of a park-and-ride lot that suggest FTA was funded in the Dulles corridor.

And I don't want to take too much of the committee's time, but let me raise just two issues.

I have received a copy of the intelligence document that the French DGSE has been using for identifying and targeting industrial espionage at 50 American companies for their high-technology equipment. I don't know if you saw it in the newspaper. There was an article indicating the French have been targeting American technology very aggressively. Can you tell the committee whether there is any foreign participation in FTA's research and development projects? And also, specifically, in university-funded projects.

Mr. McManus. Not that I know of. I don't know——

Larry, can you comment on that?

Mr. Schulman. To the best of my knowledge, we do not have foreign companies participating in our research program.

Mr. Wolf. Is that a flat no?

Mr. McManus. Asking the question that way, then I would certainly want to have the option of answering further for the record.

Mr. Wolf. What about the university transportation centers and the transit centers research projects?

Mr. Schulman. To the best of my knowledge, we don't have foreign companies involved in the transportation centers program. Those programs—the 13 centers that we have are providing money for, are basically education, and there is some research involved as well. But, most of it, to the best of my knowledge, is research that is being conducted in the university sector as opposed to being contracted out.

Mr. Wolf. A lot of the university research is done by foreign companies, and foreign countries fund chairs and other things in universities so they can access research. I would like to know if there are any that we fund, or that are joint efforts whereby any technology that we have could be transferred.

Mr. Schulman. We would have to supply that for the record. We would have to look into the full operation of the university. Our funds go into a very, very small part of a very large university system. Whether there are other elements of the university that involve foreign participation, I just don't know.

Mr. Wolf. Could you check this out for me and give me a call? You can supply it for the record, but I would like to know this before we get into markup.

Mr. Schulman. Yes, sir.

[The information follows:]

Information exchange is part of the culture of the research community. This includes exchange within the U.S. and the international community. However, there are few instances in which there is a direct benefit for a foreign government or firm.

The following are all the research and demonstration projects from the Transit Planning and Research Program which have some involvement with foreign companies and countries.

The Advanced Lead Acid Battery Consortium, one of the electric vehicle project participants, has about 50 members one of which is Norvik, a Canadian firm. This firm may provide rapid rechargers to the project.

For the Fuel Cell Project, which is a joint DOT/DOE project, Fuji Electric of Japan is supplying three (3) phosphoric acid fuel cells.

FTA and the Ministry of Transportation, Ontario, Canada jointly funded a project ($50,000 total) to identify innovative maintenance technologies that could be transferred from other industries to improve transit maintenance efficiency. The final report is being prepared.

The following is information from the University Transportation Centers program; there are thirteen (13) centers each of which has between 1 and 12 consortium members.

There are no Chairs endowed at any of the Centers by foreign companies nor are foreign students the recipients of scholarships or fellowships. Foreign students may receive hourly wages when working on research projects of the Center.

Information on foreign involvement in universities is more difficult to obtain. There are a total of 55 colleges and universities involved in the University Transportation Centers program. Most of these UTC's are part of major State university systems, some of the largest in the United States, i.e. University of California. Others are very large technical institutes such as the Massachusetts Institute of Technology. The information that follows specifically refers to the federally funded program. We would have to undertake an extensive survey of the operation of the entire university to determine all foreign funded research, chairs, faculty, etc.

The following are projects of the DOT funded University Transportation Centers.

Polytechnic University has an agreement with the Ecole des Ponts et Chasseuses (school of bridges and roads) in France, to share information and technology on IVHS like solutions to traffic congestion in the Cities of New York and Paris.

At the University of California, Berkeley, there is a project to study high speed train technology. The study team will visit Germany, France and Japan in order to learn about the three different technologies of the Inter City Express (ICE), Transatlantic Grande Vitesse (TGV) and Bullet trains. An earlier project included studying the density patterns around train stations in London, Paris and Frankfort.

Virginia Polytechnic Institute is developing a Congestion Management Executive Program for the World Bank. This Program, held for one week in Washington, will be attended by International Road Federation members chosen by the Bank.

WASHINGTON METRO EXTENSIONS

Mr. **Wolf**. One other question and then I will submit the rest for the record. And I will have to wait for Mr. Gunn to come up for both of you together.

As you know, the Washington area metro rail system isn't finished yet. And the ISTEA bill addressed the question of so-called life after 103 miles by designating two corridors for extending the system. One is the Addison Road or the Largo, Maryland, project. Are you familiar with that?

Mr. **McManus**. Not very, but I know of it, yes.

Mr. **Wolf**. And the other is the Dulles Corridor.

On page 28 of your submission, FTA recommends that no funding be appropriated for either of these studies. Where does that put you with regard to the ISTEA proposal?

And since you said you weren't familiar, I am reluctant to carry on. They were both in ISTEA.

Mr. **McManus**. We don't see that on page 28.

Mr. **Wolf**. The submission—the attachment.

Mr. **McManus**. Oh, it is a 3(j) table. No, it was not in the recommendations of the Department for the use of Section 3 money for this year—for fiscal year 1994.

Mr. **Wolf**. Well, 1994, 1995, 1996? Which? Explain the chart, if you would.

Mr. **McManus**. They are in system planning. And they may possibly be eligible for future alternatives analysis, but they are not at the point where they would be putting a call on that resource.

Mr. **Wolf**. Well, I don't understand here. If fiscal year 1992, 1993, and 1994 are zero. And the total recommended funding is zero. What does that mean?

Mr. **McManus**. Well, on this chart what it really means is that there is no proposed funding for fiscal year 1994. And because there is no funding for fiscal year 1994, we don't show any outyear funding. That does not mean that there could not be any in the outyears.

In other words, unless we have put something in the proposed funding column for fiscal year 1994, accompanied by a statement, for example, about a letter of intent or a full funding contract, we would not show any outyear costs beyond fiscal year 1994. And that is the case with this. We haven't advocated a resource from Section 3 for fiscal year 1994, and so we don't show an outyear cost. That doesn't mean there couldn't be one in another year.

LETTER OF NO PREJUDICE FOR DULLES CORRIDOR

Mr. **Wolf**. I am not for the project. I think it will be the fifth study that we will be of rail service in the Dulles corridor. How does this reconcile with the fact that you have entered into a letter of no prejudice with the VDOT?

Mr. **McManus**. When ISTEA was passed, there were some 48 mandates for different actions. That was the law. And they all called for spending money.

The appropriations process had already taken place for that year, the first year of the ISTEA. And so we wrote letters to all of these places that had earmarks and said that we didn't have any resources available to carry out the intent and suggested, to be in good faith with the law, steps that could be taken to progress the intent of the Congress. In some cases, we suggested that we would be willing to give them a letter of no prejudice. In other cases, we suggested that they use other resources, the Section 9 resource or planning resource, to advance their purpose.

So, all along the line, we were attempting to help the political process work by living up to the spirit of the law. And I think one of these, I believe the Dulles project, is functioning under a letter of no prejudice.

Mr. WOLF. How much of the $6 million is covered by the letter of no prejudice?

Mr. MCMANUS. I don't know. I don't think it is a lot.

Mr. WOLF. Does anyone know?

Mr. MCMANUS. It is about $600,000, I am told.

Mr. WOLF. How are they going to get their money?

Mr. MCMANUS. They would have to request a liquidation of that $600,000, either under Section 3, if that is where they think the ISTEA has proposed the resource, or under Section 9 or 8. We usually make letters of no prejudice in an unspecified way, if we can, for that reason.

Notwithstanding the mandates in the ISTEA or elsewhere in the legislative process, we really don't like to see the Section 3 resource used for planning or even for preliminary engineering. We would rather see the planning resource and the Section 9 resource, which may be used for planning, used that way so that when grantees were ready to make a capital investment, they would have put in some sweat equity with resources that were available by an apportionment to just their place, their urbanized area.

Mr. WOLF. Why did you grant the letter of no prejudice?

Mr. MCMANUS. Because the law——

Mr. WOLF. The law doesn't require that.

Mr. MCMANUS. We are trying to show good faith under the act.

Mr. WOLF. What are you taking that out of to pay for that?

Mr. MCMANUS. I would have to look at the letter itself.

Mr. WOLF. You won't have to come before this committee for the money, obviously.

Mr. MCMANUS. Not if it is Section 9—it is apportioned to them—and they want to liquidate the letter with their apportioned resource.

Mr. WOLF. For the record, that would take money away from what?

Mr. MCMANUS. Whatever their other work plan is. It could be, you know, whatever is in their program for a given year.

Mr. WOLF. Have you or anybody from FTA looked to see what kind of contract for the study has been signed as to whether or not it will meet all the concerns and ask all the tough questions, or will this just be a project done because somebody is paying for it and they are going to get the answers that they want? Are you aggressively looking to make sure that the tough questions are getting asked?

Mr. MCMANUS. Whenever there is a request for a grant, there is a review by the regional office of the purpose of the grant and satisfaction of the program's requirements. It is reviewed.

Mr. **Wolf**. Well, this is just a local issue, and I don't want to take the whole committee's time. I hope that you could have somebody come by my office.

One, we have been working and the committee has been very generous with regard to a bus system in that corridor.

Two, I don't believe that you can necessarily construct Metro rail in there in the next couple of years.

Three, the State is moving ahead, and taking money that I don't think that anyone has, to do something while the committee is moving ahead on the other side.

I am a little disappointed at Metro every time I hear they are meeting with the Airport Authority and others to come up with creative new ideas to extend the system, when we haven't yet finished the 103-mile system. Have you done a letter of intent for the Addison Road one?

Mr. **McManus**. Not that I know of.

Mr. **Wolf**. Does anyone know? This is very serious because these projects obligate scarce dollars.

Mr. **McManus**. I am told that there is a pending request for an alternatives analysis, but I don't know against which account.

DULLES CORRIDOR EXTENSION

Mr. **Wolf**. I would like to know what FTA is doing on both of these projects day on an updated basis. Because, frankly, what you are doing is you are beginning to give hope out there on both sides of the River that if you extend a letter of no prejudice. Taking Metro above ground from the West Falls Church stop out to Dulles Airport will probably cost at least $700 million. And some would say—and I would like you to furnish this for the record—some would say a billion dollars.

And we are acting as if there is no deficit. Nobody is even looking at where the riders will come from and what the other opportunities are in the corridor.

And I want to say for the record, I feel no obligation, although this impacts my district, to support these projects this year or next year or two or three years from now until we get the bus system up and running. Somebody has to have the capacity to say no, we just can't continue to afford this.

Metro has problems with regard to the age of its equipment and the replacement needs of the cars. And, yet, here we are already talking about extending Metro for another 13 miles, when we havent even finished the original 103-mile system.

Do you have any thoughts about that?

Mr. **McManus**. You are not referring to the 13 miles to complete the 103 miles.

Mr. **Wolf**. No, I am talking about the 13 miles from West Falls Church out to Dulles.

Mr. **McManus**. Well, I don't presume to tell local authorities, you know, what their priority setting should be. And I don't think the FTA presumes to do that.

They may proceed with studies. They still have to go through a development process, and they still have to survive the analysis that we make that reflects itself in, for example, this 3(j) report on proposed capital funding for future years. So there is a long way to go from where they are in systems planning.

A lot of these studies, Mr. Wolf, are advanced and then the projects die by the boards once the study is made, especially at the systems planning stage. I understand your vehemence about this.

ADDISON ROAD CORRIDOR

Mr. Wolf. I feel strongly. Everybody thinks that we have deep pockets. I did not put this study in ISTEA. When it was put in ISTEA, it was in my congressional district. I don't support the project. I may support it in the year 2001 and 2002, but for now, we are funding a bus system.

I was just out to dedicate a bus system park-and-ride lot. We are trying to get that up and running on a reliable basis, and now you are giving a letter of no prejudice to do a study to develop Metro out to the Dulles Airport for 13 miles, and now you tell me there is a request from the Addison Road people. Do you think there is a chance that you are going to fund that?

Mr. McManus. The request from the Addison Road people is for an alternatives analysis which is the process through which you shake out these things supposedly in a pretty rigorous way.

Mr. Wolf. Alternative analysis to see whether it should be even built?

Mr. McManus. Yes. To see whether it is no—build or what the options would be.

Mr. Wolf. Do you think it makes sense to debate these things now when we haven't finished funding the full 103 mile system?

Mr. McManus. It will never show up on a proposal to spend Section 3 money from the agency until local authorities go through the development process that is called for. I mean, these criteria are utilized at different stages of the development process. They are utilized, first, to get into preliminary engineering and then to go from preliminary engineering into actual capital construction.

Mr. Wolf. I understand that. And I will end with this. I think, eventually, some day, there will be Metro out to the Dulles Airport. I think I will probably get to ride on it. I will probably be 70 years old or something like that.

What troubles me is the signals you send with such measures as a letter of no prejudice. If you read the editorials and the articles in the newspaper, in northern Virginia, there is a sense that people are going to be riding on Metro to Dulles Airport in the year 2000. Well, they are not going to be riding to Dulles Airport on Metro in the year 2000. And you have lent credibility to this expectation.

I think you have an obligation to at least talk to the congressional delegation. I assume you talked to Senators Warner and Robb about this before you signed the letter of no prejudice?

Mr. McManus. Not that I know of.

Mr. Wolf. When you do these things, don't you think you just raise hope that these things are going to happen in the future?

Mr. McManus. Well, it depends what the subject is.

DULLES CORRIDOR STUDIES

Mr. WOLF. How many studies have been done with regard to Metro and Dulles?

Mr. MCMANUS. Oh, you probably have the count better than I, Mr. Wolf, but there have been a number. And they all come out with basically the same conclusion, at least up to now.

Mr. WOLF. Well, if you could have somebody give my office a call and come on by to see me on both this project and the Addison Road project. Because Metro keeps coming up and asking for the full funding.

And I have been a strong supporter for Metro, but let me say for the record that there is not a Metro stop in my new congressional district. But I still strongly support Metro. It is a positive thing and relatively well run. But I am disappointed when I hear that Metro is out meeting with groups, talking about these projects and the potential of taking Metro to Dulles Airport. And then I hear that some people for Addison Road are coming in, and we haven't even finished the Metro system.

I think when FTA funds these things and gives letters of no prejudice, people in northern Virginia begin to make decisions based on the fact that a contract has been signed. At this dedication that I just left today, one person talked to me about the expectation of Metro coming out. Big articles in the paper. Big editorials.

Nobody from the congressional delegation is consulted beforehand. Nobody from this committee is consulted. I don't sense that Mr. Carr and the others in the committee are ready to fund $700 million to a billion dollars for a new Metro link to Dulles Airport.

Would you furnish for the record what you think it might cost to extend the Addison Road one?

Mr. MCMANUS. Yes, I could give you a rough estimate.

[The information follows:]

The Addison Road Metrorail extension capital cost was estimated in the "Addison Road to Bowie Corridor" study funded by the Maryland Department of Transportation. The estimates range from $27 million for the transportation system management alternative to $605 million for a Metrorail extension to Bowie.

Mr. WOLF. And if you could have somebody come by my office and make sure that I have a list of the questions. I would like somebody from the FTA to look at the study that the State of Virginia is paying for to make sure that they are asking the right questions. What is the density? Would there have to be an increase in the tolls on the Dulles toll road? Where are the riders? Where are they going to? All of these questions that nobody appears to be asking.

I want to be sure that since FTA is paying for the study that you are asking them to ask the right questions.

Mr. MCMANUS. I can't fail to say that a letter of no prejudice is not a grant. It is no obligation as far as that goes.

LETTER OF NO PREJUDICE

Mr. WOLF. Have you signed a contract based on a letter of no prejudice? If you were the head of VDOT for the State of Virginia, would you sign a contract based on——

Mr. McManus. Not unless I was prepared to finance the study with my own resources and not count on the Federal grant.

Mr. Wolf. I think they are counting on the Federal grant, though.

Mr. McManus. I am sure they are. But I am only saying that a letter of no prejudice is not a commitment.

Mr. Wolf. What does it mean?

Mr. McManus. It is simply a right to recover the cost of your spending if a grant is made. It doesn't say that you are going to get a grant.

Mr. Wolf. I have no further questions.

Mr. Carr. The gentleman from North Carolina.

ECONOMIC STIMULUS PACKAGE

Mr. Price. Thank you.

I would like to welcome you and ask you a few questions focusing mainly on the late lamented stimulus package and the implications of the at least temporary failure of that package for what we are doing looking toward fiscal year 1994.

In the stimulus package, additional funds were provided for Section 9 formula capital grants—$482 million, I believe. And, also, Section 3 bus discretionary grants to the tune of $270 million.

The question naturally arises, does your 1994 budget request assume that these investments will be made?

Mr. McManus. It does not assume they will be made, but, certainly, the activities surrounding the stimulus proposal generated a healthy response from our grantees.

I mentioned earlier what it had done to the Section 3 pipeline for bus proposals. We have over $200 million in grants that are ready to be approved in the Section 3 category. We also have a caseload in the Section 9 program as a result of the stimulus package.

I was pleased to see that the administration is proposing the $4.6 billion level for fiscal year 1994, which is the level to which we would have arrived had the stimulus package gone forward.

Mr. Price. The level we would have arrived at for the current fiscal year?

Mr. McManus. Yes. Through a supplemental we would have been at about $4.6 billion. So we are, in effect, postponing that level of obligation if, of course, we are fortunate in getting the $4.6 billion.

Mr. Price. But I understand that the activity the prospect of a stimulus bill encouraged will help us get a better start in fiscal year 1994.

But my question really goes to the balance of that stimulus package and the question of whether the failure of that package would make it desirable for us to make some adjustments in the fiscal year 1994 transit budget, possibly making up for the shortfall created by the failure of the supplemental.

Mr. McManus. Well, the caseload is greater than it was, and it was premised on the fact that grantees had to have their existing formula appropriation resource fully programmed before they could be considered for the stimulus.

Also, if they were an earmarked bus project, for example, they had to have that project obligated. They had to have applied for the grant before they would be eligible to be considered for a stimulus grant under Section 3. And, notwithstanding that, we had this tremendous build-up in the pipeline.

FISCAL YEAR 1994 ALLOCATIONS

Mr. PRICE. Well, there, again, it raises the question about whether we ought to be reconsidering the allocations you are proposing for 1994 in light of the fact that a lot of this 1993 activity may not occur—at least may not occur as quickly as we had hoped.

I noticed that you changed—the percentage going to rail modification from 40 to 43 percent, isn't that right? And rail new starts going from 40 to 37 percent. It raises a question for me. Are we to consider increasing bus discretionary share to more than 20 percent since it had a disproportionate share of the 1993 stimulus funds?

Mr. MCMANUS. You have to look at the whole program structure.

Mr. PRICE. That is what I am asking you to do.

Mr. MCMANUS. By putting almost $700 million into the Section 9 program into the proposal for fiscal year 1994, all of that will go into capital. And, typically, a little over half of it is programmed by local authorities for bus systems. So, of the increment in Section 9, somewhat over half is going to go into bus systems. The Section 3 bus category, even at 20 percent, is an increase of some $20 million over what it is in fiscal year 1993. So the bus systems are being dealt with, we think, with the new budget authority level fairly.

Mr. PRICE. Well, as you say, there is a big increase for fiscal year 1994 for formula capital grants. But I would assume still that that budget was prepared with the stimulus package in mind so it raises the question whether there would still be unmet needs.

Mr. MCMANUS. Well, we knew what we were going to be proposing or thinking about in fiscal year 1994, but the stimulus proposal had a different purpose. It was meant to be a stimulus. It was meant to be immediate. It isn't the same as the longer-range investment intent of the regular program delivery system.

The formula money, Section 9, for example, is available for the year appropriated plus three, under the normal delivery of the program. That wasn't the case in the stimulus. It had to be committed before the end of this fiscal year or else it was lost.

Mr. PRICE. Well, I understand that. Are you telling me that is the rationale for the inclusion of these bus discretionary funds in the stimulus?

Mr. MCMANUS. No. The rationale was to create a stimulus.

Mr. PRICE. Right. Also to meet some long-range investment needs. This is a down payment on the investments as well as a stimulus, isn't it?

Mr. MCMANUS. Yes. It was meant as a stimulus, not as a spike. The 1994 budget authority was intended to follow through.

Mr. PRICE. All right. Well, it is clearly something this subcommittee is going to need to consider, whether some kind of modification in the 1994 proposal—the proportions going to these various purposes—further modification might be required by the failure of the stimulus package, which, after all, those drawing up of this budget request had to assume would be in place.

Mr. McMANUS. We did suggest in the opening statement that, without meaning to be presumptuous, we might consider looking at the substantial list of Section 3 bus projects that were earmarked in fiscal year 1993 and which have yet to be obligated, and possibly roll some of those over to a future year and use the resource instead for some of the stimulus proposals that are ready to go that have satisfied all of the requirements of the law. I mean, in a collaborative way, that might be something that we might look at.

Mr. PRICE. Satisfy, you are saying, the requirements for a sound investment and, in addition, are ready to go?

Mr. McMANUS. Yes, sir.

FERRYBOAT SYSTEMS

Mr. PRICE. All right.

Let me turn to a couple of more specific questions, the first on rail modernization. I want you to clarify the purposes for which this funding might be used. I noticed in your budget justification that you suggest that fixed guideway modernization funds could be used for ferryboat operations. Can you explain to me exactly what these funds could be used for?

Mr. McMANUS. That is because of the way the ISTEA specified the formula for allocating the rail modernization program in Section 3. It was changed from a discretionary program to a formula program for the reason that, for all intents and purposes, it had been allocated on the basis of relatively well-known proportions for several years, using administrative license. It was delivered that way. So we proposed putting that into the law, making it a formula allocated program.

When that was done, though, there was reference to using Section 9 as the way to deliver not the first couple of tiers of the structure for the allocation but the last—there were four tiers—but the third and fourth tiers.

We were following a definition for the permitted uses of Section 9, and we were counting—I think it was because of congressional actions some years ago—the route miles of ferryboat systems as an allocating factor for the Section 9 program. That being the case, it would affect the caseload that could be eligible for the marginal share of the rail modernization program as that level went up, and so we allowed it for ferry system investments—the terminals specifically or most likely.

Mr. PRICE. Well, that is really my question. What kind of operations? What kinds of facilities are eligible and what kinds are not eligible under your guidelines?

For example, if New York City wanted to rebuild a ferry terminal, would that be eligible? Could they use rail mod funds for that purpose?

Mr. McMANUS. They could under the way the delivery system was structured. They could use it for terminals. They could use it for the boats. It is possible that they could do that.

But the overwhelming use of the resource—I mean, it is for rail systems, fixed guideway systems. There is just no question about that. There just isn't much money that gets delivered that would be very useful for ferry systems.

Mr. PRICE. Well, let's say a ferry system in another part of the country, one that wasn't tied to one of these older cities, wanted to figure out what the rules were and what the prospects for support were. What would you say to them?

Mr. MCMANUS. These places will pop up in the caseload depending on the amount of resources that are put into the rail modernization category. The larger the sum is, why, the more chances there are that there would be a longer list besides the 11 basic systems, the integrated rail systems, that command the use of most of the money.

There are some 16 such places, in addition to the 11 rail systems I have referred to, in the first year of the ISTEA. I think there are 17 in the current year.

But I would say to them, if they did show up on this scope, they would do so if they had been running the system in revenue service for seven years. Any time such a system which has been run seven or more years made application, why they would be eligible for inclusion in that caseload.

Mr. PRICE. So there is a specific caseload of eligible systems?

Mr. MCMANUS. Yes.

Mr. PRICE. Well, I would appreciate your reminding us of what are the criteria that govern inclusion on that list. Furnish that for the record.

Mr. MCMANUS. I will be glad do that.

[The information follows:]

Section 9(b)(2)(B) of the Federal Transit Act states that the terms "fixed guideway revenue vehicle miles" and "fixed guideway route miles" shall include ferry boat operations directly or under contract by the designated recipient. There are ten urbanized areas that currently report such ferry boat statistics as required under Section 15 of the Act. These ferry boat statistics, along with other fixed guideway statistics, are used to apportion Section 9 funds in the fixed guideway tier of the Section 9 formula. Fixed guideway modes in this tier include rail rapid transit, commuter rail, light rail or streetcar, trolleybus, aerial tramway, inclined plane, cable car, automated guideway transit, ferryboats, exclusive busways and HOV lanes.

The ten urbanized areas reporting ferry boat statistics used in the Section 9 Fixed Guideway tier are New York, Oakland, San Francisco, Boston, Seattle, New Orleans, Norfolk, Hartford, Tacoma, and San Juan. This ferry boat mileage represents approximately 3.5% of the nation's fixed guideway mileage. The Section 9 fixed guideway tier data is also used to apportion tiers 3 and 4 of the Section 3 Fixed Guideway Modernization program formula, but only if an urbanized area's fixed guideway has been in revenue service for at least 7 years. This 7 year requirement is specified under Section 3(h)(3)(B) of the Act.

All but three of the cities listed above (Norfolk, Hartford, and San Juan) are eligible to receive Section 3 Fixed Guideway Modernization funds under this statutory criteria. Fixed guideway funds may be used for such capital improvements as ferry terminal rehabilitation or construction and the purchase or rehabilitation of ferry vessels.

Mr. MCMANUS. I have tried to express it as well as I can here. They have to have been running service for seven years, and it has to be a ferry service that is reporting into the section 15 reporting system, and it has to be mass transportation. Not tourism service. It has to be able to be classified as a mass transportation service.

Mr. PRICE. And those you say are all statutory requirements? Is that true?

Mr. McMANUS. The statutory requirement was that we permit ferryboat route miles to count in the Section 9 allocation system. And then deriving from that was this decision that they should be able to use the money that comes to them by virtue of that factor.

JOBLINKS PROJECT

Mr. PRICE. Fine.

One final question, has to do with the Joblinks employment transportation initiative. Last year, the conference report included $1.5 million for a national Joblinks transportation initiative. The goal was to develop innovative programs to improve employment-related transportation services and to overcome critical mobility barriers to residents of urban or rural areas. What is the status of that project? Has the contract been awarded?

Mr. SCHULMAN. The individual to receive the contract has been selected. I am not quite sure whether the actual award has been made as yet. I think they are working the application through. But the organization to manage the program has been identified, has been selected.

Mr. PRICE. Now, the committee asked to you report on this program by February 1st of this year. Has that been done?

Mr. SCHULMAN. I believe there was a letter report submitted. I am actually not positive. I believe a letter report was submitted on the progress that we were making. I could verify that for you, sir.

Mr. PRICE. A letter you say, not a full report?

Mr. SCHULMAN. Well, there was nothing to report other than the progress we had made in the selection of the contractor to manage the program. So, there was no formal document other than a report to submit to the committee as to the status of the project and the progress we had made. I believe that was done.

Mr. PRICE. All right. Well, please check on that. Let us have any update that you can. I think the communication—this has left something to be desired. But it is good to hear that you are making progress.

[The information follows:]

The Community Transportation Association of America (CTAA) has won the FTA competitive bid process to carry out the objectives of the $1.5 million Joblinks Initiative. The CTAA has recently submitted an application for the funds. The application is currently within the FTA approval process and should be cleared for award very soon.

The CTAA will be responsible for the overall project activities of the Joblinks Initiative. The CTAA will develop a mechanism for promoting and expanding public/private transportation services to unemployed and underemployed persons and demonstrate effective local models for overcoming transportation-related barriers to job training and employment opportunities. The CTAA will also provide assistance for an independent evaluation of the project's activities and prepare a final report on such activities.

On February 10, 1993, letters were sent to both Representative Bob Carr and Senator Frank R. Lautenberg announcing FTA's intent and the process to be used to carry out the objectives of the congressional earmark.

Mr. PRICE. The next question is, what kind of budget assumptions have you made for 1994 as to the continuation of this project? Does your fiscal year 1994 budget assume continuation of funding for this purpose?

Mr. McMANUS. No, it doesn't. To my knowledge, it hasn't been on the scope of anything that we have talked about.

Mr. Price. What are we to conclude from that fact?

Mr. Schulman. The particular project was an earmark in the last appropriation. At this particular point, we haven't initiated the project. We haven't really made any determination as to whether there is any specific funding to carry the project forward.

Mr. McManus. I would like to respond to your line of questioning for the record so that there is clarity about it, sir.

Mr. Price. Good. We will await that with interest. Thank you.

[The information follows:]

Once the Joblinks Initiative is awarded, the Community Transportation Association of America will have 26 months to complete the objectives of the congressional earmark. The current funding will be available through FY 1994, therefore no additional funding is needed at this time.

LOCAL TRANSIT AUTHORITIES ACCESS TO AIRPORTS

Mr. Carr. Mr. McManus, I have a couple of minor items I wanted to raise with you before getting back to our main line of inquiry.

Over the years I have had a particular interest in the notion that some airports in some ways inhibit or hinder the mass transit authorities in those areas from operating fully on the airport property. They do this because they make money by contracting a variety of transit services as exclusive services from the airport to destinations, typically hotels and the like. Yet it seems that a lot of people who work at the airports are left with very poor, if any, transit services to get to and from work.

Given that airport congestion and parking is a major problem, I wonder if you have ever surveyed your major transit properties to find out if they have any complaints about the access that they get to airports?

Mr. McManus. No, we haven't. To my knowledge, we haven't.

Mr. Carr. I would like you to do so. I would like you to send out a letter to each of the transit properties asking them to reply to an inquiry of that nature.

We always talk about intermodalism, and there is a lot that is wrong. This committee finances huge sums of money for airport grants-aid. It would seem to me that the FAA ought to be inquiring as well to find out what the airport policies are with regard to public transit. And I think we ought to make sure that those airport properties which are using Federal dollars are not in some way discriminating against use of mass transit on those airports. So I would ask that you do that.

Mr. McManus. We would be pleased to do that Mr. Chairman.

[The information follows:]

The Federal Transit Administration proposes to send letters of inquiry to transit agencies, located in 34 urbanized areas with populations of one million or greater, regarding any complaints they may have pertaining to access by their agencies to airport properties. Actual or potential issues that may impact local airport transit ridership should be reflected in the responses received from the transit agencies. We are coordinating this effort with the Federal Aviation Administration.

BUY AMERICA—VANS

Mr. CARR. And I would be grateful to receive, as early as possible, the reply.

And I am going to ask the staff if we wouldn't also make an inquiry to the FAA. They have already been before our committee for their hearing, but I think we can write a letter to them asking them to do the same thing so that we can make sure that both sides of Federal dollars are interfacing the way they really are being contemplated.

Another item I want to mention or bring up with you that is minor, but I think is important. There are certain buy-America provisions regarding purchase of motor vehicles. Anyway, I believe it is a 60 percent domestic content and final assembly in the United States.

Mr. MCMANUS. That is correct.

Mr. CARR. That is correct. One of the problems has to do with regulations and paperwork. Prior to last year, there was no content labeling law. But in last year's appropriations, bill the Committee and the Congress, House and Senate, adopted a provision that was sponsored by myself and Barbara Mikulski, the Senator from Maryland, requiring certain automobile content labeling requirements by October of 1995, I believe.

I am wondering if you see any problems with just accepting the information that is provided on the content labeling as required. This would particularly deal with vans. The content labeling that is required there would have the place of final assembly, obviously. It also requires the listing of any country with over 15 percent content, and it requires a separate accounting for engines and transmissions.

And I am wondering, rather than put those who manufacture and sell vans to transit or paratransit operations go through yet a separate kind of audit on their content, could you take a look and see if FTA couldn't make use of the law that was recently passed and will go into effect very shortly?

Mr. MCMANUS. Yes, I would be pleased to do that. I am not sure whether that would be covered in our pre-award and post-grant audits. I would be pleased to focus on that.

Mr. CARR. Well, it is just a way of trying to make things work a little better. We are getting the same information and perhaps doing it with a little less paperwork. This is of particular importance to the domestic vehicle manufacturers who are already doing a tremendous amount to comply with the new auto content labeling law. And, if those labels would satisfy the requirements of FTA, it would greatly simplify things. And, if it can't, then maybe we ought to have a discussion later on as to what the problems are.

[The information follows:]

The content labels might facilitate but will not satisfy Federal Transit Administration audit requirements. The American Automobile Labeling Act, as amended by the 1993 DOT Appropriations Act, requires manufacturers to disclose information about the domestic and foreign content of each vehicle. In contrast, section 12(j) of the Federal Transit Act, as amended, requires recipients of FTA funds to conduct pre-award and post-delivery audits of rolling stock purchases to assure compliance with Buy America and other requirements. The Federal Transit Act and its implementing regulation specifically provide that a manufacturer's certification of compliance with section 12(j) requirements is not sufficient and that inspections and audits independent of the manufacturer are required. In short, as a matter of law and regulation, FTA recipients must comply with these requirements and would not be able to rely on the information required under the American Automobile Labeling Act, although that information might make the independent audit much easier to conduct.

Mr. McManus. Do you want to say anything, Greg?

Mr. Carr. Why not? Say something.

Mr. McBride. I am the designated potted plant this morning, Mr. Chairman.

I think, as Bob has said, we can look at this, and I don't see why we couldn't in our regulations make use of that procedure.

Mr. Carr. Either that or figure out some kind of a one-stop process where you would in some fashion certify a particular model, rather than having to have an individual audit of every vehicle.

It could be quite costly. And, of course, ultimately the cost gets passed on to the transit properties which then come to us for extra monies. We are really saving ourselves money if we can accomplish the same result.

Before returning to the main line of questioning, I would like to recognize my good friend and colleague from Illinois, Chairman of the Agriculture Appropriations Subcommittee.

TRANSIT ALCOHOL AND TOBACCO ADVERTISING STUDY

Mr. Durbin. Thank you, Mr. Chairman. I apologize for not being here earlier.

I only have one line of questions, and it relates to a study which I asked the FTA to present to this subcommittee. I can't recall when I first asked for the study, but it has been several years ago. At least two or three years ago I asked for a survey of the importance of revenue from alcohol and tobacco advertising to transit authorities. I thank you for submitting this to me.

If you have the results of it handy, I would like you to summarize what you found as a result of the survey.

Mr. Schulman. I would be glad to do that, sir.

We collected data from 43 properties which were located in areas of over a million. And, from those, three that we found that the total revenue that they had derived from advertising, specifically having to do with alcohol and tobacco, represented less than a percent, 6/10ths of a percent of the total revenue that they received. That is based on an annual period. Within these 43, 16 prohibited any alcohol displaying at all, and 12 did not allow anything in tobacco area.

We were also able to find that for those 27 properties that did allow advertising for alcohol while it did vary somewhat, the advertising represented about 6 percent of their advertising revenue. And on the tobacco side, for the 31 properties that allowed it, it represented about 17 percent.

We also found that there is activity continuing on this area where various properties are considering it and considering what to do with the issue of advertising for alcohol and tobacco. In fact, most recently there were some decisions made, and they limited the amount of money that could be derived from those purposes.

Mr. DURBIN. So the trend appears to be reduction in advertising for alcohol and tobacco on mass transit across the United States?

Mr. SCHULMAN. Yes, it does.

CHICAGO CIRCULATOR PROJECT

Mr. DURBIN. On page 22 of the Section 3(j) Report, FTA recommends only $5 million in new funding for the Chicago Central Area Circulator Project. Did you consult with the Circulator project staff as to their projected funding needs for fiscal year 1994?

[The information follows:]

Each year in preparation for the Section 3(j) report, FTA asks each grantee to report on the status of their projects; this information is taken into account when determining the need for Section 3 funding. Staff for the Chicago Central Area Circulator estimated $48.1 million per year over the remaining four years of ISTEA, based on the $232.9 million cost to complete and the $40.5 million in unobligated earmarks.

One of the criteria we used in recommending funding allocations was the project's readiness to obligate the funds during FY 1994. Since the locally-preferred alternative for this project presents operating difficulties that could compromise its safety, speed, reliability, and cost-effectiveness, the Section 3(j) Report recommends $5 million in funding for FY 1994 to allow the local project staff to address these difficulties. This can be used in conjunction with the $40.5 million still available for the project in unobligated funds from prior years. Once these operating difficulties are resolved, we would expect the Chicago Circulator to be poised to obligate the planned funding.

Mr. DURBIN. Did you consult with FTA staff in the region 5 office in Chicago regarding the projected funding needs for the Circulator project in fiscal year 1994?

[The information follows:]

FTA Regional staff provides input regarding the status and future needs of New Start projects under their jurisdiction. The Chicago Central Area Circulator was discussed with Region 5 staff.

Mr. DURBIN. What assumptions or other information did you use to develop your recommendation?

[The information follows:]

The locally-preferred technology for this project is a trolley system operating in reserved lanes on city streets. The potential for traffic and pedestrian conflicts with this type of system, particularly at intersections, presents operating difficulties that could compromise its safety, speed, reliability, and cost-effectiveness. The highest priority should be to address these difficulties. Toward that end, the Section 3(j) report recommends $5 million in funding for FY 1994, which can be used in conjunction with the $40.5 million still available for the project in unobligated funds from prior years. Any future funding commitments will be evaluated once these operational difficulties have been satisfactorily addressed.

Mr. DURBIN. I note that on page 31 of the Section 3(j) report you have not listed the Circulator project for a full funding contract agreement in 1994. Did you know that your Chicago office has already begun preliminary discussions with the project regarding a full funding grant agreement and has indicated to project staff that it could be executed this year or early next year?

[The information follows:]

It is not unusual for FTA Regional staff to hold general discussions with grantees concerning the status of their specific grant applications, and topics such as Full Funding Grant Agreements (FFGAs) would certainly be a part of such discussions. It is conceivable that a FFGA could be issued for the Central Area Circulator within the next year, if the operational difficulties associated with the preferred technology can be overcome. Because these issues are so critical to the success of the project, however, we do not anticipate their resolution in such a brief timeframe. Any future funding commitments, including possible issuance of a FFGA, must therefore be evaluated after these issues are resolved.

ST. LOUIS METROLINK

Mr. DURBIN. The Bi-State Development Agency has requested $19.6 million to complete Phase I of the Metro Link project. Bi-State's request includes the $7.2 million shortfall in the fiscal year 1993 appropriation, $7.5 million deferred last year for the Berkeley spur, $4.1 million in additional extraordinary costs subject to the full funding agreement, and $850,000 for loan costs and project management. Your Section 3(j) Report recommends that an additional $15.2 million be appropriated in fiscal year 1994 to complete the Metrolink project. What costs in Bi-State's request have been excluded from the amount recommended in the 3(j) report. Why weren't these costs included in FTA's fiscal year 1994 recommendation?

[The information follows:]

The Full Funding Grant Agreement (FFGA) between FTA and the Bi-State Development Agency is based on a total project cost of $451.4 million, with FTA contributing the maximum allowable Federal share of 75 percent, or $338.6 million. To date, Bi-State has received $326.9 million from FTA, leaving $11.7 million needed for completion of the FFGA.

The $15.2 million recommended for the St. Louis Metrolink project includes $11.7 million required to complete the Full Funding Grant Agreement, plus $3.5 million for additional extraordinary costs. Bi-State's request for $4.1 million for extraordinary expenses includes $560,000 in added environmental cleanup costs similar to those denied in previous claims. Bi-State alleges that these costs are the result of extraordinary circumstances that were beyond their control; FTA disagrees. A thorough assessment of proposed Metrolink sites and rights-of-way would have revealed the presence of hazardous materials in the early stages of project development, when environmental cleanup could have been incorporated into overall costs.

Mr. DURBIN. Thank you very much, Mr. Chairman.

ALTERNATIVE FUELS

Mr. COLEMAN. The Clinton administration has pledged to increase the use of natural gas as a transportation fuel. Using more natural gas, which is cheaper and cleaner than gasoline and produced domestically, would complement the administration's environmental and energy policies simultaneously.

Section 410 of the Energy Policy Act of 1992 empowered the Secretary of Transportation to initiate an Alternative Fuel Bus Program to increase the use of alternative fuel transit and school buses. Section 410 authorizes $30 million for the program in fiscal year 1994.

Section 410 clearly vests primary authority to administer this program with the Department of Transportation.

Why was this program not included in DOT's budget request for fiscal year 1994?

[The information follows:]

The FTA already has in place a substantial, active alternative fuels initiative (AFI) underway within our existing Clean Air Program using Sections 3, 9 and 26 program funds. Thus it is not necessary to request separate funding under the authorization contained in the Energy Policy Act of 1992.

While Section 410 of the National Energy Policy Act of 1992 (EPACT) clearly indicates that the Department of Transportation (DOT) should manage these funds, it is our belief that an appropriation request for these funds should come from the Department of Energy (DOE), especially since these funds would be a supplement to our continuing efforts in this area.

INTERNATIONAL PROJECTS

Mr. Coleman. My community of El Paso has sought to regenerate an electric trolley system in conjunction with Cd. Juarez, Chihuahua, Mexico. What is FTA's posture with respect to international activities of this nature?

[The information follows:]

The Federal Transit Act, as amended, does not specifically address the issue of whether U.S. transit operators can operate over international routes. The Federal Transit Administration (FTA) does not prohibit U.S. transit operators from operating over international routes as long as the service is within an urbanized area, and the appropriate agreements are made. However, FTA cannot provide financial assistance to support service that exceeds the transit operators actual operating rights or rights to acquire service.

The House Report accompanying the 1991 DOT Appropriations Act directed that FTA give priority consideration to a $2.8 million streetcar project in El Paso from rail modernization funds. The FTA has set aside this amount for the city of El Paso. The city of El Paso could elect to use its Section 9 formula resources to fund eligible transit capital and operating cost for the proposed trolley project. However, to date, the city has not filed an application for this project.

USE OF ALTERNATIVE FUELS IN TEXAS

Mr. Coleman. The trolley system is related to a conversion to alternative fuel vehicles my community has pursued. In fact, Texas has implemented conversion of public transit vehicles in the next several years. How does this compare with other States? Are grants prioritized to States with clean air standards?

[The information follows:]

The Texas legislation mandating the purchase and conversion of public transit vehicles to alternative fuels is the farthest reaching among state legislation in place. The Texas law requires that a certain percentage of transit operators' fleets in Metropolitan Statistical Areas with 350,000 or more be alternative fueled: 30 percent by September 1, 1994; 50 percent by September 1, 1996; and contingent upon the success of the program, 90 percent by September 1, 1998 and thereafter. To meet these percentage requirements, transit operators may not only have to purchase new alternative fueled buses, but also convert existing buses in their fleet.

Arizona requires that all new bus purchases for operation in non-attainment areas after January 1, 1990 be alternative fueled. California has established emissions standards for urban transit buses that are in advance of Federal standards.

FTA does not give priority to States with legislation mandating the purchase and/or conversion of transit buses to alternative fuels. When FTA's Alternative Fuels Initiative Program began in 1988, funds were set aside out of the Section 3 discretionary bus account specifically to encourage the purchase and deployment of alternative fueled buses.

RIDERSHIP PROJECTIONS

Mr. Carr. Mr. McManus, I would like to return to the subject that we talked about a little earlier and Mr. DeLay picked up on but we haven't completed, and that has to do with the matter of ridership projections, a real serious problem for this committee. Time after time we have seen examples of original transit ridership projections as being promotional in nature with actual figures only a small percentage of the earlier estimates.

The Pickrell Report, prepared by the Transportation Systems Center looked at ten projects a couple of years ago. The best project, Washington's Metro, was only off its original estimate by

28 percent. The worst, Miami's heavy rail project, had only achieved 15 percent of the estimated ridership. The forecast for Miami was 239,900 weekday riders. Actual experience at the time of the report was only 35,400 riders. The other cities studied missed their ridership projections by anywhere from 54 percent to 83 percent.

What has the FTA done since the issuance of the Pickrell Report to improve the original ridership estimates made in support of projects?

Mr. McManus. Well, we have substantially revised our guidance relating to the ridership estimation process. It describes principles required by FTA to dictate using conservative assumptions and tests of reasonableness of their results. For example, if a grantee is postulating what seemed to be unreasonably large estimates, one could call forth for a test of reasonableness a corridor that had those same ridership characteristics, and it might show that an overblown ridership estimate for the proposed project would have to be located in an urban area with the configuration like Chicago or New York in order to make the estimate reasonable.

I don't know if I am being clear about that, but that is a test of reasonableness. You look at other corridors that have the same volume characteristics and say, do you mean to say that you think you are going to achieve this kind of ridership in the face of what it really takes to get that kind of ridership? Those kinds of suggestions are made in the guidance with the help of independent contractors.

FTA has increased its oversight reviews of the ridership estimation approach proposed for major transit projects. We have support contractors who work with us on ridership estimation reviews and also on cost reviews. There are different contractors for different elements of——

Mr. Carr. You actually employ these contractors to audit and critique the submissions that are given to you?

Mr. McManus. Yes, they augment our staff, and they are chosen for their expertise in the areas in point.

Mr. Carr. Do you do that on every case?

Mr. McManus. On every major capital project, yes.

Mr. Carr. So there is an audit of the review figures?

Mr. McManus. Yes, there is. For selected studies these reviews include oversight by a peer group chosen from among the best modelers in the country. We will assemble them and hold a seminar session. This process has been successful in ensuring that at least the accepted practices for the travel forecasting process are being followed. We are collaborating with FHWA and EPA and the Office of the Secretary in a project to improve the state of the art in demand forecasting as well as to improve the state of the practice. This is a multiyear effort that is greatly needed. In fact, it was spawned, I think, by the EPA, which was finding that the models that were being used to forecast the effects of responses to the clean air standards were just simply not up to the task. Finally, the enormous work trip data available from the 1990 census should provide the basis for facilitating the development of these more accurate models, so these are the things we are trying to do. When you sit down and talk, when I have, with our planning staff everybody concedes this is the most difficult of the elements in our work to get at. It always has been, but we do think we are getting at it in a much more effective way than was the case at the time that the demand estimations were being made in the cases that were reviewed by the Pickrell Report.

AVAILABILITY OF TRANSIT DATA

Mr. CARR. Well, I do think it is most important, and it is the single underpinning that drives all of the ambition and all of the financial analysis, if it is in error. As the Pickrell Report indicates, it is highly unreliable. Both this committee, State legislatures, city councils, even the bond market would, I think, have a very hard time trying to figure out what the reasonable financial package ought to be in the face of promotional ridership figures.

I know you collect a lot of data from the transit properties, do you have data that is equivalent to the airline available seat mile?

Mr. MCMANUS. Well, we do collect passenger mile data, but we certainly can get that from the Section 15 data.

Mr. CARR. In other words, you know how many miles of routes and how many seats are traveling on those miles?

Mr. MCMANUS. I am pretty sure that that would show up in the Section 15 report, Section 15 database.

Mr. CARR. Then you can also get from that database the number of revenue passenger miles?

Mr. MCMANUS. Yes.

Mr. CARR. Is that part of your 3(j) report?

Mr. MCMANUS. Well, actually some of those factors are used in our policy studies and even in the Section 9 formula—passenger miles, for example.

Mr. CARR. You say that these contractors help you try to figure out whether the ridership estimates are accurate or not. Do these same contractors also work for transit properties as private consultants?

Mr. MCMANUS. That is always the Achilles' heel. The way we protect against that is to retain a group of such contractors. We do that, and then we watch for conflicts of interest so that they can't be reviewing work that they have been involved in.

Mr. CARR. And they have to disclose that to you?

Mr. MCMANUS. Yes. We do the same thing with other project oversight contractors. We use groups to hedge against that fault.

RIDERSHIP PROJECTIONS

Mr. CARR. Do you think we ought to get the transportation center to look at it again and see if there has been improvement?

Mr. MCMANUS. It may be too soon to do that, but we certainly wouldn't be defensive about it, about what it is we are doing. I just don't know whether there is enough of a case load—or maybe we should do it every three years or so anyhow, just to see what we have.

Mr. CARR. When was that Pickrell Report?

Mr. MCMANUS. The Pickrell Report was about 1987.

Mr. CARR. October 1990.

Mr. MCMANUS. I think it was three years.

Mr. CARR. The data was that 1988.

Mr. McMANUS. Right. The original report was published in October 1989 and reprinted in October 1990 with the October 1990 date on it.

Mr. CARR. Have you funded any recent studies or programs with local properties to educate them on how to better project ridership?

Mr. McMANUS. Oh, we do run training. Now, I don't have scheduling here, but we do run training sessions on all of the technical products that we turn out.

Mr. CARR. I would like you to supply for the record the explicit guidance that you give to localities on ridership projections.

Mr. McMANUS. We would be pleased to do so.

Mr. CARR. So we can take a look at those. We might want to ask some questions ourselves when various properties come here and propose various things.

[The information follows:]

FTA has two primary methods of providing guidance on ridership projections for major transit projects. The first consists of presentations given as part of a two-day course by FTA staff on the conduct of project planning studies. The second is FTA's guidance for transit project planning studies entitled, "Procedures and Technical Methods for Transit Project Planning". The two chapters of this document which address ridership forecasting are 130 pages long. They have been provided to the Committee under separate cover.

CENTRALIZED BUS PROCUREMENT

Mr. CARR. It is an area that I think this committee is going to be taking a real serious look at in the future because it is a major area of lack of confidence in the investments that we are making. I would like to talk to you about a problem and maybe an opportunity as it has been filtered through some of the information we have received from the witnesses over the past few weeks.

The current practice, of course, is that each locality wanting to buy a bus applies to you and gets your review, and then they probably get some money and then they in turn contract with the bus manufacturers for the actual purchase of the buses. And this process probably works fairly well for particularly some of those very large properties.

New York was here the other day and testified that they buy a lot of buses on their own dollar, not with any help from the Federal Government. They have an ongoing and a continual relationship with a variety of bus manufacturers, I suppose Chicago, Philadelphia, a couple of others, Washington, D.C. maybe, and that gives them some leverage with these bus manufacturers, and they probably get a pretty decent price. However, there is a lot of small communities that buy only a handful or a dozen buses every couple of years, and it would seem that just in terms of quantity and the like that they are—that they don't have quite the leverage.

The other thing that we are quite well aware of is when a lot of little purchases come in and they have a lot of little differences that they want on each bus, it really tends to drive up the cost of the entire bus procurement nationally. And while it is quite clear that there are some differences, we have had some good testimony that if you are operating a bus in a mountainous area, say Salt Lake City, at a high altitude, you have a different kind of operational rigor that you don't have if you are on a rather, say, dry flat area, say, like Phoenix, and that may be a little different than a bus that is operating over some rough terrain.

I know that you can go down some of the streets in Detroit and it is—you think you would need an all-terrain vehicle to get down some of these streets, so they have a certain requirement, but other than the total operating environment, it seems that we are paying a huge price for all the other things that are nonstandard that really aren't operational. They are more in the nature of, well, we would like this, we would like that, et cetera, and you don't have as much standardization.

Several years ago the State of Pennsylvania centralized its bus purchases for the entire State, and the committee has heard some favorable comments about that, and I would like to ask if, by way of leading into something else, did you ever have an opportunity to examine the bus procurement practices of the State of Pennsylvania to see whether it had any flaws or any particular virtues to it?

Mr. McManus. I think we had a pretty good reporting on that at the time it was done, but I wasn't directly involved in that.

BUS MANUFACTURING INDUSTRY

Mr. Carr. The bus manufacturers have told me throughout my association with this committee, and there used to be a major bus manufacturer right in my district several years ago. They were sold and have left the community. But the other major problem that bus manufacturers have that drives up the cost to the overall taxpayer, whether through local funds or through Federal funds is that bus manufacturing tends to be pushed by the way we are doing business. It tends to be pushed in a cyclical fashion so that in one year there will be a slug of money and there will be a slug of bus purchases, and then the next year the order bank dries up and they have to start laying people off, and then every time they go through that kind of a cycle, a spike of money, a drought of money, they are on a financial roller coaster.

Planning for that is an extra burden that ultimately reflects itself in the prices in buses and probably hits the smaller properties harder than the larger properties like New York and Chicago and Washington that can level out their procurement year in and year out. In fact, the larger systems probably get an opportunity for some spot market buying in a way. They can buy capacity on a spot basis and probably even further produce an economy for themselves. I just wonder whether it wouldn't be a good idea that the Federal Government, instead of granting money, grant buses and that the Federal Government conduct at least a base portion of the procurement every year to assure bus manufacturers a fairly steady order bank and by standardization and commonality allowing for operational differences between altitudes and terrain and things like that.

Couldn't we save ourselves a lot of money if we went into some program like that?

Mr. McManus. I don't know. I am a little surprised that there aren't more examples of the halfway house where there are more States that do this. I remember years ago I worked in New York

State at one time and they had a very good centralized procurement function where all municipalities could join in and pool their requirements for vehicles, construction equipment—I was a city manager at that time—and cars and all kinds of things. I am surprised that hasn't been done with respect to buses around the country. But to be more direct, I sort of, I must say, recoil a little bit from complicating the management of this program.

Mr. CARR. Well, it might complicate your management, but it might relieve others. I guess the point is for the overall good of the country wouldn't we be better off to try to centralize it?

Mr. McMANUS. I think it is a very interesting idea.

BUSES FOR OLYMPICS IN ATLANTA

Mr. CARR. I was aware, for example, when a bus procurement is underway, particularly say a large system again, when buses are running through a bus plant destined for New York City, New York City has somebody in that bus plant going over every one of those buses, and yet when small town USA buys five buses, when those buses are going through the bus plant, they don't have anybody there. It would just seem to me that we have these very large, and we have these very small and that at some point the Federal Government could save everybody a lot of money if we did a national bus buy every once in a while to a base line.

This isn't to say that some communities might not want to opt out of that system, but if they do, maybe then they use more of their local money to do it, maybe there is some incentives that way. I would ask that you look at that and just give it some study, see where the scale is, where you could hit some scales of economy and efficiency, and then let me lead into the next thing which I think we have perhaps an opportunity to test this out. You know, we have been requested, and you will be requested if you haven't already, to supply about 2,000 buses to the Olympics in Atlanta.

Now, understandably Atlanta needs the buses but isn't going to buy 2,000 buses for a three or four-week period of time. On the other hand, they can't use their own buses because they have to maintain service to the working population of Atlanta on a day-to-day basis. They testified to us that they don't have a tremendous reserve fleet that they can tap into. I suppose we wouldn't have to buy all new buses. I am sure that some cooperative arrangements you could think of getting some buses from relatively nearby areas to make a contribution for which somebody has to pay for those buses.

My thinking is that maybe somehow or other knowing that we are going to have this bulge coming in 1996, if we started planning right now the Federal Government could do a bus procurement on behalf of the Olympics and then distribute the buses to properties on the basis of what their needs will be and perhaps achieve some—and we don't have to buy all 2,000 buses next month. I mean we could stage the purchase of these. They could probably even see revenue service in other cities before they even get to Atlanta, but then they would be recovered by the communities that got these buses.

Have you talked to the Atlanta folks?

Mr. McManus. No, I haven't directly. I imagine our regional office has. I think that is a possibility, and it is an interesting idea. What comes to my mind is the Los Angeles experience a few years ago. It seemed to me that they pulled that off with the service, bus service at the Olympics there with—we hardly knew about it. Our agency hardly knew about it. I don't know how they did it, whether it was a lot of leasing or what. I am sure that Ken Gregor in Atlanta has talked with the L.A. people about what they did, so he has taken that into account, whatever it was that they did do.

Mr. Carr. The first thing we need to ask you to do, if you would, for us is to first audit Atlanta's stated need. They say 2,000 buses. In this committee we have no way of knowing whether that is a reasonable figure or not. I think we need to get our hands and our arms around what the nature of the problem is going to be down there and what opportunity it holds for us. Then I would ask that you—and perhaps we could have a later meeting with ourselves and our Senate counterparts to see what might be done in terms of an overall national beneficial approach to Atlanta's one-time need so that we can perhaps buy a large number of buses at as low a possible cost with the greatest amount of Federal centralization and supervision and just use this one-time need as perhaps a demonstration project of what a national bus procurement program could do for us in terms of economies of scale maybe in the process devote some considerable R&D money and study what it was that was accomplished, if anything.

Maybe out the other end we find that this just doesn't work for a lot of reasons, that the scale of economy is just not that great, that the quality of buses is not that improved, whatever the case may be. But then it seems that we would be operating from some knowledge so would you please take a look at this? I think we will be doing something at least in report language in that regard.

[The information follows:]

This is a very interesting problem and should be analyzed. A working group to address the issue could be formed consisting of FTA Headquarters, FTA Region 4, MARTA, the Atlanta Committee for the Olympic Games, and the bus manufacturing industry. This Committee would first verify the needed number of buses, and assess the capabilities of the participants, e.g. MARTA to store, operate and maintain the buses, and evaluate procurement versus charter options for obtaining the buses. We look forward to working with MARTA in supporting their efforts to provide transportation services for the Olympics.

WASHINGTON METRO BUDGET REQUEST

Mr. Carr. Now, before going on to another line of questioning, I want to recognize my good friend and fellow subcommittee Chair of the Treasury, Postal Service Appropriations Subcommittee, Steny Hoyer, who is well known as a supporter of mass transit in general and WMATA in particular.

Mr. Hoyer. Thank you very much, Mr. Chairman. First, I want to congratulate you for assuming the chairmanship of this committee. I know you had been working the committee pretty hard. I was talking to Mr. Price. He was saying that you are looking very closely at these budgets, and I think that is appropriate. I will not be able to stay unfortunately. I know you are running a little behind schedule. I was going to be over here earlier, not that I did not want to hear the Acting Administrator of FTA, but we thank you for the role that you have played and that your administration has played in getting us further along on the path of the accelerated construction process.

Mr. Chairman, I just wanted to come and support the request of the Administration plus 12. We are looking for $212 million. As you know, the administration has asked for $200 million. The $12 million came from last year, the fast track which I know Mr. Wolf, who has been an incredibly strong supporter of and supporter of Metro and has been very successful along with this committee and yourself and other members of this committee, fast track in terms—I was listening to your observations and questions which I thought were obviously directed at saving money. Mr. Gunn is here and he will testify, but one of the things that he has done under his administration and the board, you know, is to have this accelerated project, construction project fast tracked for completion of Metro which we think can now be completed within the existing authorization and save some $600 million, and so I wanted to come over and support the funding levels asked by the administration because that is what will allow us to do this much more rapidly.

I think that is really what you were talking about in terms of the bus, the economy of scale and moving along. As Mr. Gunn's testimony will indicate, part of that is as a result of being able to borrow money to get us where we can acquire opportunity, in effect construction purchases early on and then pay that back because of a stable and secure funding stream from the Federal Government. In any event, I appreciate the opportunity to join you. I regret that I will have to leave now because I have a 12:00 commitment, but I will look forward to working with you and the committee and Mr. Wolf on this issue.

I thank you very much for allowing me to make these few comments.

Mr. CARR. We appreciate you being here and appreciate your leadership with regard to WMATA. I would easily observe that in my ten years on this appropriations subcommittee that WMATA has done well largely due to the efforts of Congressman Wolf and Congressman Hoyer.

Mr. HOYER. And this committee. Thank you, sir.

GRANT OVERSIGHT

Mr. CARR. I have a number of questions that we are going to ask for the record on the Americans with Disabilities Act and—but I think you went over that at some length with others and we won't repeat that area. The Federal Transit Administration's grant oversight activities have been the subject of considerable criticism in recent years. The GAO in their November 1992 report entitled, "Mass Transit Grants, If Properly Implemented FTA Initiatives Should Improve Oversight" contained the following statement: "FTA's new initiatives, however, will not be fully effective until the agency focuses its staff efforts more appropriately, makes full use of its resources, and provides clear guidance to contractors."

You have read the GAO report. What do you have to say about it and what are you doing to comply with their suggestions, if any?

Mr. McManus. Well, we feel we have done a lot about it and almost contemporaneously with the succession of audits that have been done on the agency the last few years. I included an extensive, somewhat extensive review of some of our activity in the statement for the record. We have put out further guidance to our oversight contractors. We have conducted training activities for them. We have initiated a succession of oversight efforts on financial management and procurement and on triennial reviews and reinstituted training sessions that had languished from 1985 with respect to these various activities.

Right now we are conducting oversight reviews of the functions I have just mentioned targeted to the grantees that are shown to have the highest risk of noncompliance with the subject area in mind, whether it is procurement or financial management systems or what have you, and it is a very organized effort now. It didn't used to be. We didn't have the in-house staff. We had a 27 percent reduction in our agency size over the past several years, and we have used these oversight contractors who we were able to retain because of the cooperation of the Congress in letting us use program funds to retain such contractors. This has the effect of giving us an increase in FTE equivalents in the form of contractors for these functions.

We also work with the contractors themselves in training them to do the reviews compliant with requirements of our directives and regulations. If there is any activity that has gotten a high emphasis, especially in the last three or four years, this is it in our agency. We have reorganized our regional offices and set up oversight units and reassigned 40 people to this function.

GAO REPORT ON HIGH RISK AREAS

Mr. Carr. Let me interrupt you, Mr. McManus, because if you have been doing this for the last three or four years, why does the Federal Transit Administration show up as a high risk area by the GAO in their December 1992 report? This is something they do at the turn of an administration to identify high risk areas. So far as I remember this was the only area in all of the Department of Transportation, and they say that you have not made full use of contractors to augment the oversight performed by your staff. They said that in fiscal year 1991 FTA had $35.3 million available for contract oversight assistance, but spent only $14.8 million.

They have also noted that you postponed until 1994 a planned study to determine the best use of staff for oversight purposes. Is that accurate?

Mr. McManus. What was the last? I didn't——

Mr. Carr. The GAO noted that——

Mr. McManus. The last comment.

Mr. Carr. Is it accurate that you have postponed a planned study to determine the best use of staff for oversight purposes?

Mr. McManus. Do you want to comment on that, John? I will comment on the rest.

Mr. Spencer. Okay.

Mr. McManus. Well, I think the reference has to be in that report to what I just referred to as the escalation of the use of these contractors. We were only given the authority to use the Section 23(h) resource, which is a take down, a percentage take down of program funds for these other purposes, procurement and financial management oversight and safety and management studies in 1990, and then we immediately expanded our oversight contractors from what had been just a base use of engineering oversight contractors to oversee construction management. That, we had been doing, gradually building up since the mid 1980s. So the efforts in finance and procurement have, in fact, just gotten underway in the last year or two, but what I am saying is that they happened as soon as we got the authority to do it.

We did have this 27 percent reduction in staff, and extra requirements to attend to.

Mr. Carr. What is the response to the fact that you had money, you had resources for oversight staff and you didn't spend it?

Mr. McManus. That, I don't know what the reference there is.

Mr. Carr. Have you read this high risk report by the GAO?

Mr. McManus. I have read summations, references to it. I haven't read the report itself.

Mr. Carr. Well, it would seem to me, Mr. McManus, that as Acting Administrator—and I know that you are operating under difficult circumstances, and to me it is outrageous it has taken this long to confirm an administrator, but nonetheless, you are leading the agency at the present time. When this is one of three apparently in DOT that was cited as one of the high risk areas, areas where the GAO said if there was going to be money misspent or when somethings not right, this was considered a high risk area, and I can't believe you wouldn't have read this. It is a very small pamphlet. I could probably read it—I could have read it during Mr. Wolf's questions. It is only 35 pages.

Mr. McManus. John tells me that that is—those are excerpts from this report which I have read, and I certainly have spent a lot of time focusing on oversight. I don't mind saying I generated the changes in the legislation that gave us the ability to retain these contractors to begin with, even though I didn't have responsibility for some of the functions that were dealt with. We are designated as a high risk agency by criteria that were used that referred to the size of discretionary programs as one element, and we were called out following the savings and loan and the HUD experiences in that era.

I must say that we are making good faith responses to all these criticisms. I think that some of the criticisms have been sensational and some of the connotation of high risk in this program also is one that I think is questionable. We make relatively few grants. We make—for all of our resource we make a thousand or so grants, a thousand to 1,200 grants. They are not done behind closed doors in private consultations with private parties. They are totally public, there are hearings. A large number of them receive the attention not just of local public officials, but of public officials in the agency and Members of Congress. They are totally different from the kinds of dealings that produced the public outcry that these designations are responding to. I do not think the agency is at high risk of mismanagement. It hasn't shown up in the history of our program.

OMB REPORT—GRANTS MANAGEMENT

Mr. CARR. Well, it isn't just GAO, I might point out. The President's own Office of Management and Budget seems to agree.

Mr. MCMANUS. But they used the criterion that I just cited, the size of the discretionary resource. In this program it is a large resource. It is over a billion dollars.

Mr. SPENCER. May I offer a few comments?

Mr. CARR. I will be glad to get your comments, but just let me say that the OMB believes that $300 to $500 million is at risk. The OMB lists FTA's grants management oversight as a high risk area for management improvement, and it isn't just because you have a lot of discretionary authority.

Mr. MCMANUS. I didn't say it was just because of that, but that was one of the major factors. That was the beginning of it, and they identified some 16 or 17 agencies, and we were in that group for that reason. My point is that those discretionary grants are very low in number. In fact, they only number from 75 to 125 or so a year out of the thousand or so grants that we make, and they are totally public and out in the open, yet these connotations are there that are damaging to the agency.

I can't help reacting to it in the way I am doing because I know the way that the agency functions, and we, in the 30 years or so that the program has been functioning, we haven't—it is not a program that has——

Mr. CARR. I can appreciate that.

Mr. MCMANUS [continuing]. Has had scandal and fraud and waste and abuse. It has never been that kind of a program.

Mr. CARR. I can understand how professionally you must recoil, but the fact is that size is not a big consideration. One of the other areas that was listed in here, if you think this is a sizable problem, it is a quantity problem. OMB has cited the Federal Aviation Administration for the inadequate management of spare parts and field activities.

Do you think that is a large dollar amount? Not at all. They are in the same grouping. OMB says FTA must improve oversight of grantees' adherence to Federal requirements. In 1992 FTA received additional staff support, 31 FTEs, and implemented recommendations of the administrator's task force report on program management oversight. The additional resources provided by the Congress in 1993, it says here, will be used to fund new contractor support activities. I guess your testimony is that you are doing that, is that it?

Mr. MCMANUS. Yes, we are. In fact, we have responded——

Mr. CARR. It says you are going to need more funds in 1994 to provide staffing and contractor support in the discretionary and formula programs. That is what you are testifying you need, right?

Mr. MCMANUS. Yes.

Mr. CARR. Now, it is a matter of just doing it, I guess. Well, it is an area, I don't want to belabor the point. I don't want to unduly beat you up, like I say. I think you are operating under some major constraints now, and the person I want to ask the question isn't here, so I get to ask you. But it is an area, and I just have to say in the overall sense, we get—that coupled with promotional ridership figures we get, we would like to look at the agency and have some confidence that there is the oversight there, but I have to say that our committee just doesn't have that confidence.

Our experience with a lot of this has not been terribly good, and to the extent that this committee has contributed to the problem, we will get to that in a minute. We are determined that we are going to change our way of doing business, and that is why we did our investment criteria. We want to work with you in trying to make sure all this happens out the right way for the U.S. taxpayer. I have a number of other questions in this area that I will ask for the record.

FTA GRANT OVERSIGHT PERSONNEL

In the past the Congress has provided for extra personnel for grant management oversight. But just adding more people is not the answer. Are you confident now that you have the right number of people devoted to this oversight?

[The information follows:]

FTA has made a number of improvements to strengthen its grants management and oversight program. Staffing resources have been requested and approved through the budget process. Additionally, FTA's efforts to provide efficient and effective grants management and oversight were enhanced by the availability of Section 23(h) funds.

In FY 1991, the FTA staffing level was increased by 14 FTE, and in Fiscal year 1992 the staffing was increased by 31 FTE to 460. With the new authorities under Section 23(h), FTA's oversight capabilities have been enhanced and the regional staff augmented by the expanded use of contractors with expertise in the areas of concern. The following is a breakdown of the additional FTE provided through the use of contractors under Section 23 for management and oversight.

Triennial Reviews—10 FTE per year.
Financial Management Oversight—8 FTE per year.
Procurement System Reviews—14 FTE per year.
Project Management Oversight—47 FTE per year.
Total resources by Section 23 contractors—79 FTE per year.

In addition, another action taken by FTA to strengthen efforts in oversight is the reorganization of the regional offices. The regional staff are now organized into three offices: Program Development, Program Operations and Program Oversight. Forty positions are devoted to program oversight of which only three positions are vacant.

In conclusion, FTA has significantly increased its resources devoted specifically to oversight functions with the assignment of 40 FTA staff positions in the regions plus 79 FTE of contractor support for a total of about 129 FTE assigned to FTA grants management and oversight. Given the funding and staffing resources available to the FTA, the current staffing distribution reflects an appropriate balance between oversight and its grant making, technical assistance and other activities that we must perform.

MANAGEMENT OF GRANT OVERSIGHT

Mr. CARR. How do you measure your activity and improvement in grant management oversight?

[The information follows:]

Currently we use a variety of measures in managing our oversight activities. This includes enhancements to existing activities such as the triennial review; the implementation of new activities like financial management oversight; and an increased emphasis on training of staff, contractors and grantees. In the area of the triennial reviews, for example, FTA developed a Triennial Review Handbook that can be used by both contractors and in-house staff. The handbook provides not only the most effective procedures for conducting the review but an explanation of the requirements behind the procedures. There has been an increase in training in the areas of the triennial review and procurement.

With the availability of historic data, such as we now have available for grantee peak vehicle requirements, we will also be able to start looking at grantee improvements in more measurable terms. An analysis of the national spare ratio indicates that overall the spare ratio level of the national transit industry has decreased from 26.5 percent in 1985 to 22 percent in 1990. We continue to monitor progress in this area through the Section 15 data, site visits, quarterly progress reports, OIG audits and the triennial review.

GAO REPORT ON TRIENNIAL REVIEWS/SINGLE AUDITS

Mr. CARR. The General Accounting Office has also been very critical of FTA's triennial reviews, and has noted that "the abbreviated scope could not provide a full and complete review of grantees' control systems." How do you respond to the GAO's observation?

[The information follows:]

The FTA, GAO and the OIG have had a long-standing disagreement concerning the role of the triennial review. It is FTA's position that the triennial reviews are intended to complement but not replace audit functions more properly performed by trained auditors.

Although we believe the triennial review program is essentially sound, we continually work to strengthen it where possible. For example, the new Triennial Review Handbook includes some testing in areas such as procurement and inventory control. We have also developed a "model filing system" that better documents the triennial review findings of compliance or non-compliance. Additionally, a new tracking system has been developed that will enhance the regions' ability to track items requiring follow-up corrective actions. We have also increased training for headquarters and regional staff as well as for contractors. Last August we provided triennial review training for more than 50 participants.

Mr. CARR. The GAO has also criticized FTA's practice of relying on single audits to verify the appropriateness of costs when closing grants. Please address the GAO's concerns and indicate why you believe the single audit close-out is adequate. Also explain the cost consequences to FTA if it should change to a different practice.

[The information follows:]

FTA is revisiting the issue of procedures for closing out completed grants. Cost consequences of other procedures have not yet been established.

GRANT OVERSIGHT STAFF

Mr. CARR. Provide the number of staff and percentage of staff time spent working predominately on oversight both in headquarters and by region. Also provide the same data for two years ago.

[NOTE.—The GAO reported that early in fiscal year 1992, the number of regional (staff) performing oversight ranged from 2 to 12; the proportion of staff time spent on oversight ranged from 8 to 38 percent.]

[The information follows:]

The number of staff and percentage of staff time spent working on management oversight both in headquarters and by region follows:

Headquarters staff: 10 FTE—100 percent.
Regional staff:
Region I (five FTE—one vacant—100 percent).
Region II (four FTE—100 percent).
Region III (five FTE—100 percent).
Region IV (five FTE—100 percent).
Region V (five FTE—100 percent).
Region VI (four FTE—100 percent).

Region VII (two FTE—100 percent).
Region VIII (three FTE—100 percent).
Region IX (five FTE—100 percent).
Region X (two FTE—100 percent).
Total FTE: 50.

Mr. CARR. Mr. Wolf, did you have anything?

BUS STANDARDIZATION

Mr. WOLF. Just one question following up on what the Chairman asked. Why could we not standardize all buses?

Mr. MCMANUS. Well, that was a subject in the 1970s of a lot of discussion with the industry at the time. We tried to do it through the research and development program in the 1970s, and were ultimately lampooned about it, you know, with the transbus efforts and withdrew. I remember when Secretary Lewis became Secretary in the early years of the Reagan administration, he immediately withdrew from this subject entirely, so we have not had a happy experience with it, with the industry. The industry was down on us as well.

We have done a policy review of that experience. It was not focused on standardizing, though. It was focused on defense conversion and the condition of the industry itself, not directly on the questions you have asked. My only reaction to that is we went around that track once and just didn't get a lot of cooperation in it.

Mr. WOLF. What was the major criticism?

Mr. MCMANUS. Well, that it was heavy-handed, that there wasn't enough flexibility allowed.

Mr. WOLF. On Friday SEPTA testified from Philadelphia and the New York system testified that the conditions in New York and Philadelphia are not that different, and yet the buses in New York and Philadelphia are different, and I guess if you throw Washington in the match, it just seems to me that there should be some rationale for standardization. We standardize cars insofar as the Ford Taurus has basically the same engine whether it is sold in Michigan or sold elsewhere. I realize there would be some conditions based on climate and based on topography.

Actually, a bus operating in Wyoming would have different conditions than a bus that operated in Miami Beach with regard to hills and things, but it just seems that in order to reduce the Federal exposure and get more for the dollar it would make some sense.

Mr. MCMANUS. I think, Mr. Wolf, that there is going to be more attention in this administration to technology-oriented research and development in the program. There was a long slump in that part of the R&D program for several years following the heavy attention to it in the 1970s, and maybe it was a recoiling from some of the reaction to that experience, and the question in the 1980s was what is the role of the government in all of this anyhow? Technology, R&D, and there was a withdrawal. I sense, although it is quite early, that the Secretary is interested in this whole general subject, and I think that in the coming year we will see a focus on not just this kind of question, but a lot of other such questions in the research and development program.

BUS MANUFACTURERS

Mr. WOLF. How many bus manufacturers were there in the late 1970s and how many are there today and, if you would break that down, how many were American-owned and how many were foreign-owned?

Mr. MCMANUS. I would like to answer that accurately. There are plenty of bus manufacturers today and there is a lot of overcapacity, and there were at that time as well, so I would like to answer that question for the record.

[The information follows:]

FOREIGN & DOMESTIC BUS MANUFACTURERS

The following table identifies the bus manufacturers who were serving the U.S. market in the late 1970's and in 1993. Only 4 manufacturers today were present in the market in the late 1970's.

MANUFACTURER	1970'S	1993
Transportation Manufacturing Corp., (U.S.A.)	**Yes**	**Yes**
General Motors (U.S.A.)	Yes	No
Gillig Corp. (U.S.A .)	**Yes**	**Yes**
Flxible Corp. (Sub. General Automotive) (U.S.A.)	**Yes**	**Yes**
New Flyer Industries (Canada)	No	Yes
Neoplan USA Corp. (Germany)	**Yes**	**Yes**
Ikarus (Hungary)	No	Yes
Ontario Bus Industries (Canada, thru BIA, Sub.)	No	Yes
M.A.N. (Germany)	Yes	No
Volvo (Sweden)	Yes	No
Hino Motors (Japan)	Yes	No
Renault (France)	Yes	No
Saab-Scania (Sweden)	Yes	No

Mr. **Wolf**. I have no further questions. Thank you.

ISTEA FUNDING FLEXIBILITY

Mr. **Carr**. I have a number of questions, for the record on ISTEA funding flexibility. I think you have hit many of the answers there, but we want to tighten that up a little bit.

One of the hallmarks of ISTEA is the funding flexibility it permits. To date, by fiscal year, how much money has been transferred from highway programs to transit, and how much from transit to highways?

[The information follows:]

In fiscal year 1992, $302 million was transferred from multi-modal programs in the highway title to FTA for transit use under the flexibility provisions if ISTEA, and an additional $168 million was transferred during the first two quarters of fiscal year 1993. We expect the transferred amount to double by the end of fiscal year 1993. We have not received a request to transfer any Section 9 capital funds to FHWA for use on highway projects.

Mr. **Carr**. How likely do you think it is that a considerable part of the highway to transit transfers have been due not so much to a commitment to transit as to a lack of available highway projects, especially in the congestion management and air quality category?

[The information follows:]

The FTA has not collected data that would explain the rationale behind the highway to transit funding transfers. Anecdotal information suggests that a healthy give and take process is occurring within the states and metropolitan planning organizations. Decisions on the allocation of flexible funds tend to reflect state and local transportation policies and strategies, the supply of ready to go highway and transit projects, and the availability of alternative funding sources. In the future we expect that CMAQ funding allocations will relect the content of the State air quality plans which are now under development.

GAO REPORT ON ISTEA FUNDING FLEXIBILITY

Mr. **Carr**. The General Accounting Office, in an April 1992 report entitled "Transportation Infrastructure: Urban Transportation Planning Can Better Address Modal Tradeoffs", concluded the following: "DOT could better assist states and localities in using ISTEA's funding flexibility by developing cross modal criteria—that is, criteria for comparing highway; mass transit; and nontraditional transportation projects, such as HOV lanes."

What is the FTA doing to address the concerns raised by the GAO?

[The information follows:]

FTA is currently funding a study to develop new criteria to evaluate the worthiness of projects seeking Section 3 New Start funding. An important consideration in the development of the criteria is that they be applicable not only to transit, but to other modes. FTA plans to coordinate development of the criteria with FHWA. FTA has had discussions with local agency staff so that, to the extent possible, FTA's criteria address the concerns of local decisionmakers.

Mr. **Carr**. The same GAO report notes that some metropolitan planning agencies have tried to implement cross modal criteria in the past. Experience with the Metropolitan Transportation Commission in the San Francisco Bay area is cited. What is FTA's assessment of the cross modal criteria used by MTC and other MPO's?

[The information follows:]

While the MTC approach represents a good initial attempt to assess transportation needs in a multimodal way, the approach primarily screens projects without consideration of quantifiable measures. In order to adequately address the tradeoffs among different modes, a more analytical approach is needed. We are unaware of quantifiable multimodal criteria in use at other MPO's.

TRANSIT: NEEDS STUDIES

Mr. CARR. A recent General Accounting Office report, "*Mass Transit: Needs Projections Could Better Reflect Future Costs,*" dated March 9, 1993. The estimates varied from an estimate of $3.2 billion to $4 billion prepared by FTA in 1991 to $32 billion prepared by the American Public Transit Association. The major difference apparently relates to the treatment of operating costs, which the FTA excludes.

Is the principal reason for their exclusion an attempt for comparability with the highway needs report? Is that why you do that?

Mr. MCMANUS. The reason we exclude the operating costs?

Mr. CARR. Right.

Mr. MCMANUS. We are trying to correlate our needs report with FHWA's, but we had other reasons for not including operating assistance. We think, by the way, that that GAO report is a very good one. We had a lot of discussions with the GAO staff on that report, and I am willing to stipulate to their critique and the accuracy of their observations about our approach and that of the other estimates that they reviewed, AASHTO's and APTA's. We didn't and we don't want to get into operating assistance, but we may in the next report in order to cover the criticism that the law in defining what kind of a needs study we must do does make reference to operating costs.

We may develop a chapter. It is going to be a very complicated subject to deal with from the standpoint of at what point do you call it a need. The issue will have to get into questions of service levels, fare levels, things like that to get at a judgment on what you would call a need, but if you just want to cover the subject, it can be done in a chapter in the report, and that is probably what we will do to begin with.

Mr. CARR. Do you still support the estimate of $7.5 billion developed in 1992?

Mr. MCMANUS. Yes, we do, but we also recognize the GAO criticism which, if we took their critique into account, would result in a higher figure, a higher estimate.

Mr. CARR. What is the FTA's best estimate of required annual operating costs? Have you done that?

Mr. MCMANUS. No, we haven't.

Mr. CARR. Okay. How do you account for the difference between the $5.6 billion in expansion costs between the estimates prepared by FTA and APTA?

Mr. MCMANUS. Again, I would stipulate to the GAO critique. I haven't tried to do that. I have just concluded that with respect to capital costs the differences are very explainable between ourselves and APTA and AASHTO. Do you want to speak to that, John?

Mr. SPENCER. If I may. What APTA did was to conduct a survey. They asked the transit operators essentially what they would like to have in terms of new systems. Our approach was based on the highway needs report which assumed that 34,000 lane miles of freeways would not be able to be constructed and part of our needs estimate assumes that 10 percent of that need, people who would have been carried with that 3,400 miles, would be met by transit.

Mr. CARR. Did that report assume IVHS?

Mr. SPENCER. Only if the operators assumed that in developing their estimates that they submitted to APTA.

Mr. CARR. But yours?

Mr. SPENCER. Oh, ours? Not directly, no.

Mr. CARR. So even that might be a little flawed.

Mr. MCMANUS. It is a crude general effort, but it is a little better than anything we have had before.

Mr. SPENCER. We are constantly refining the estimates. We just got additional information in on bus maintenance facilities and also a rail mod study update.

EXCESS BUS PURCHASES

Mr. CARR. The General Accounting Office and the DOT's IG have been critical of FTA's lax procedures that allow the replacement prematurely of buses. We are really running quite late, so I am going to ask you to respond to these for the record, if you would, please.

EXCESS BUS PURCHASES

Both the General Accounting Office and the Department of Transportation's Office of Inspector General have been critical of the Federal Transit Administration's lax procedures that allow for the premature replacement of buses. What are the FTA guidelines on bus replacement purchases?

[The information follows:]

FTA is very clear in its guidance to grantees concerning replacement buses. FTA Circular 9030.1A states, "Buses proposed to be replaced should be at the end of a minimum normal service life. For purposes of routine Section 9 bus replacement grant applications, the age of the bus to be replaced is its years of service at the time the proposed new bus is introduced into service." Further, "Spare ratios will be taken into account in the review of projects proposed to replace, rebuild or add vehicles. The number of spare buses in the active fleet for grantees owning fifty or more revenue vehicles should normally not exceed 20 percent of the vehicles operated in maximum services."

Mr. CARR. Does FTA enforce this standard? In other words, it is a true ceiling or just a target?

[The information follows:]

FTA developed the 12 year, 20 percent spare ratio rolling stock policy as general guidance for Section 9 funding under the program of projects. It was never intended as an absolute percentage that could not be exceeded under any circumstance. The guidance is taken into account in the review of projects proposed to replace, rebuild or add vehicles. Any deviation from the guidance must be justified as an unusual circumstance. Overall, the operating spare ratio level of the national transit industry has decreased from 26.5 percent in 1985 to the 22 percent level in 1990.

Mr. CARR. Do you know how many authorities are not in compliance with this guideline?

[The information follows:]

FTA has recently completed a study of transit fleet spare ratios. The report, entitled, the "National Spare Ratio Study," finds that overall the national mean spare ratio has decreased from 26.5 percent in 1985 to 22.7 percent in 1990, based on Section 15 data. This study includes all transit operators of directly operated service with an active fleet size greater than 50 vehicles. Although the study showed national spare ratios coming in line with the FTA guideline of 20 percent, FTA finds that 55.2 percent, or 72 of the 131 bus operations nationwide that fall under our guidelines have spare ratios above 20 percent.

IG REPORT ON BUS OVERCHARGES

Mr. CARR. The Inspector General has reported that 31 of 48 grantees examined had overcharged FTA $85.6 million to purchase more buses and bus parts than FTA's policies allow. Can you refute the IG's allegation?

[The information follows:]

One of the largest dollar audits used in this calculation is the "Audit of the Purchase and Control of Spare Parts Acquired with FTA Capital Assistance," Report No. R5–UM–8–179. The subject report concluded that five grantees had improperly expended capital assistance funds for the ineligible rebuilding or construction of bus components. Further, three of these grantees were also cited for not remitting to the FTA the value of dispositions that had occurred through trade-in arrangements. The Officer of Inspector General (OIG) recommended that FTA recover a total of $20.2 million from these grantees. In responding to the report FTA asserted that the OIG misinterpreted the provisions of applicable laws regarding the eligibility of capital funding for capital maintenance items. A legal opinion was obtained from the Office of General Counsel to resolve the audit which found the grantees' practice acceptable. The Secretary determined that in light of the findings by the Office of General Counsel, that FTA would not be required to seek recovery of the $20.2 million in questioned costs and final action would be considered complete on the subject audit report. This resolution process often, as in this case, takes some three years. In other cases, FTA and the OIG have agreed on a substantially lesser amount for actual recovery than the initial OIG projections.

Mr. CARR. The IG also reported that 36 of 60 grantees examined had charged FTA $50 million for items such as extended warranties that are not eligible for reimbursement under FTA policy. Is this accurate?

[The information follows:]

This statement is consistent with the OIG findings. FTA generally agreed with the OIG findings and on January 7, 1993, FTA issued a clarification of the policy concerning eligibility for capital funding of warranties on heavy-duty buses. FTA recommended specific warranty levels and told grantees that warranties that exceed the recommended periods are not eligible for capital funds.

CENTRALIZED BUS PURCHASES

Mr. CARR. If FTA purchased buses centrally and made them available to the transit authorities, couldn't some of these problems be avoided?

[The information follows:]

It is not clear that centralized bus procurement by FTA would solve the problem because of the heavy burden this procurement system would have on the FTA staff. There are current measures that can handle excess bus purchases. FTA has identified grantees with excessive bus spare ratios from Section 15 data, and has asked them to provide information on their approach to comply with the 20 percent spare ratio guideline. In addition, FTA has detailed triennial review procedures to identify grantees with excessive spare ratios.

IG REPORT ON BUS GRANT CRITERIA

Mr. CARR. Another IG report issued in May 1992 (No. AS–FT–2–016) was very critical of FTA's guidance on criteria to be used in the Section 3 discretionary bus grants program. Specifically, the IG recommended: "FTA should provide grantees with sufficient advance notice in the Federal Register concerning what criteria will be used to analyze and evaluate their requests for discretionary bus grant funds, and revise program guidance to ensure that FTA regions follow a consistent and uniform methodology in ranking proposed bus projects. FTA also needs to require headquarters officials to document their process for evaluating and recommending discretionary program grants for bus projects."

What corrective action has the FTA taken in response to the concerns of the Inspector General?

[The information follows:]

FTA responded to the OIG by agreeing, in the future, to provide public notification of the availability of Section 3 discretionary bus grant funds in the Federal Register or by other means, including criteria, emphasis areas, and other selection considerations. FTA also agreed to provide guidance to the regional offices on the ranking of proposed bus projects and to document the overall selection methodology.

Because the FY 1993 bus program was fully earmarked and there were no discretionary decisions to be made, such guidance was not issued. FTA did publish all of the FY 1993 Section 3 allocations in the Federal Register on October 14, 1992, as well as prior year unobligated earmarked amounts. Should FTA have any discretionary bus funds in future years, we will take the necessary actions to comply with the IG recommendations.

ELECTRONIC FUNDS TRANSFERS

Mr. CARR. An audit prepared by the DOT Inspector General found numerous problems with the FTA's electronic clearing house operation, known as ECHO. Please indicate what the FTA has done or intends to do to respond to each of the following IG recommendations:

(i) strengthen grantee monitoring procedures and controls,

(ii) obtain adequate supporting documentation for unsupported payment requests or require grantees to return over $31 million in federal funds,

(iii) require grantees to submit interest of $2,018,513,

(iv) implement formal procedures to prevent processing duplicate payments, and

(v) perform a facilities security assessment.

[The information follows:]

FTA has taken the following steps to respond to the Office of Inspector General recommendations:

(i) As required by the audit report: guidance has been issued to emphasize regulations on excess drawdowns; status reports are being reviewed and follow up action is being taken in a timely manner; during triennial reviews and financial management oversight reviews, source documentation will be examined.

(ii) We are working with the grantee to determine if satisfactory documentation exists. If the grantee does not provide adequate documentation, the $31 million will be collected from the grantee.

(iii) Nearly all of the $2 million interest due relates to the $31 million of unsupported costs referenced above. If the $31 million cannot be supported, interest from the date of the drawdown will be collected. All other interest has been collected.

(iv) Internal procedures have been changed to prevent duplicate payments. If the validity of a payment is in question, the security administrator of the ECHO system will contact the Treasury Department to ascertain the status of the payment transmission. The Chief of Accounting at FTA will make any decision on processing a back-up payment based on a written assurance by Treasury.

(v) The security assessment was recently completed. It found that the controls in place provide more than adequate security. Although not critical, physical security of the equipment could be improved by moving the computer equipment to another location and it is hoped this will be funded in fiscal year 1993.

TRANSIT BENEFIT PROGRAMS

Mr. Carr. We have a number of questions on transit benefit programs that we will submit for the record.

Current law allows Federal agencies to participate in state or local government programs that encourage employees to use public transportation. Benefits can include up to $60 per month in tax free assistance to be applied toward transit costs. In a November 1992 report, the General Accounting Office concluded that "it is too early to tell whether providing transit benefits has succeeded or will succeed in encouraging greater use of public transportation among federal employees or, alternatively, whether the population of federal employees using public transportation will remain roughly the same." Do think the effort is successful or do you agree with the GAO that it is too early to tell?

[The information follows:]

The current law (Energy Policy Act of 1992 (section 1911 of Pub. L. 102–486)) also allows Federal employees to receive tax-free parking benefits up to $155, which by far exceeds the transit benefits allowed. Transit benefits offer Federal employees who choose to or must use transit a measure of equity. Almost 95 percent of all commuters nationwide enjoy the benefit of employer-provided parking and most Federal agencies provide parking at little or no charge to all or some of their employees. These policies amount to significant benefits for single occupancy vehicle commuters. The GAO report would prove more useful if it also studies the cost of subsidizing parking for single occupancy vehicles, and its impact on both transit and the environment.

We believe the Transit Benefit Program has been successful in encouraging greater use of public transportation among Federal employees, and participation should continue to increase. As a result of the three year program, 84 Federal agencies and more than 21,000 Federal employees in the Washington D.C. area alone are participants. Within the Department of Transportation, 44 percent of our headquarters employees are currently participating in the program, an increase of 22 percent since the department began offering up to full $60 benefit in January 1993. Also, DOT field employees participating in the Transit Benefit Program increased 36 percent since January 1993. Moreover, approximately 900 DOT employees have left either their single occupancy vehicles, carpool, or vanpools to participate in the program. Transit benefits for Federal employees continues to offer an incentive toward modal choice, making a transit a viable choice in their commute to work.

Mr. Carr. Appendix II of the GAO report (No. RCED–93–25) is a chart displaying the agencies and number of employees participating in the program. It shows a total participation rate of 37 percent, or 13,945 of 37,822 employees in the agencies involved. However, I would just note that some of the participation rates seem, well, rather surprising. For example, it indicates that 1,200 of the Senate's 3,200 employees participate. And that fully 50 percent of NASA employees use the program. Other high participation rates include 60 percent for the SEC, 94 percent for the U.S. Sentencing Commission, 46 percent for the CIA, and 100 percent for the National Transportation Safety Board. The Department of Transportation is listed at 30 percent. Do you have any way of knowing if these figures are accurate?

[The information follows:]

The Department of Transportation does not collect any statistical information on the number of employees participating in each Federal agencies' Transit Benefit Program. However, each agency is responsible for implementing its own program and maintaining appropriate financial and other records on participation, in accordance with General Services Administration Guidance. Also, GAO is required by the Mikulski Amendment to the Treasury, Postal Service and General Government Appropriations Act, 1991 (section 629 of Pub. L. 101–509) to conduct a study and submit a report on the implementation of the transit benefit program and the employees who have participated in such programs. The GAO report (no. RCED-93-25) is a preliminary study of the implementation of the Transit Benefit Program. GAO will complete its final report by June 30, 1993, which will provide additional information on the number of Federal agencies and employees participating in the program.

Mr. CARR. Some of the estimates appear a little bit high. Are you aware of any abuse of this system? Do you know if there is any follow up action to determine if employees are truly using transit or possibly just collecting the benefit?

[The information follows:]

While DOT is not aware of any abuse with the Transit Benefit Program, DOT has already taken measures to eliminate phantom carpoolers. Furthermore, the Office of Management and Budget has issued guidance, which is intended to ensure that agencies establish financial and management control over funds used in the program at the conclusion of one year of operation. The Department of Transportation is currently conducting this evaluation which is scheduled to be completed in June.

Within DOT, there is also a self certification process which requires each employee to certify here they live and that they will use the transit benefits only for commuting to and from work. DOT uses a computerized system that automatically calculates the amount of benefit to which each employee (including part time and student aids) is entitled, based on home address and ensures employees receive either transit benefits or subsidized parking, but not both.

ALTERNATIVE FUEL VEHICLES

Mr. CARR. This is an area where I would like to just ask you in a capsule way, this is about alternative fuel vehicles.

Both ISTEA and the Energy Policy Act of 1992 have provisions that encourage the use of alternative fuels for transit systems. Bring the Committee up to date on activities in the alternative fuels arena pursuant to these provisions.

[The information follows:]

FTA's Clean Air Program assisted in development of bus engines that meet EPA's 1993 bus emissions standards: Cummins CNG, Detroit Diesel Methanol, Detroit Diesel Ethanol, Cummins and Detroit Diesel Particulate Traps, and Detroit Diesel Series 50 diesel engine without a particulate trap.

FTA has awarded 61 grants for over 1000 alternative fueled vehicles. FTA has served as a catalyst for the introduction of clean fueled transit buses—over 1300 alternative fueled buses are in service; over 1500 on order.

ISTEA authorized $12 million for an Advanced Transportation Systems and Electric Vehicles Program. Four consortia (CALSTART, Chesapeake, New York State, and Advanced Lead Acid Battery) were selected to explore use of new electric technologies for mass transit and general transportation. The program is designed to develop new ways to meet air quality and energy goals.

FTA and DOE are conducting a joint Fuel Cell—Battery Bus Development Program. This effort will lead to transit buses with electric drive trains powered by a fuel cell and battery system. A prototype fuel cell—battery bus will be available in the Fall of 1994.

Mr. CARR. What specific actions is FTA taking to comply with the increased emphasis in alternative fuels?

[The information follows:]

FTA has awarded technical study grants to determine modifications required to convert existing bus garage facilities to alternative fuels. A guidelines handbook for alternative fuels transit facilities is being developed based on these and other experiences.

On-site industrial hygiene surveys with regard to the use of alternative fuels in transit buses and facilities have been conducted. Three on-site surveys have been conducted for the use of methanol, and four are in progress for the use of compressed natural gas and liquefied natural gas. These surveys evaluate the health and safety impacts of the use of alternative fuels in a transit work environment.

Training manuals for the safe use of alternative fuels have been developed for methanol and CNG. A similar training manual for LNG is being developed. Training courses on the safe use and handling of alternative fuels have been developed in conjunction with the Transportation Safety Institute and are being presented to transit agencies.

Mr. CARR. Assess what are both the positive (that is, reductions in air pollution) and negative (that is, increased refueling times, increased operation and maintenance costs) aspects attendant to alternatively fueled vehicles.

[The information follows:]

The most positive aspect of alternative fueled buses is their contribution to improvements in air quality. Additionally, low emission buses dispel the traditional image of a smoky diesel bus that presents public relations and marketing problems for transit. As an example, the emissions from a fleet of 200 fuel cell buses is expected to approximate the emissions from one current diesel bus. Further, the use of alternative fuels in the transit fleet provide the Nation with an entry point toward reducing our dependency on unstable sources of foreign petroleum for our transportation needs.

The negative aspects stem primarily from the increased costs involved at a time when local and national budgets are strained. However, the added costs of alternative fuels must be weighed against the benefits from improved air quality and energy security for our citizens.

COMPARISON OF ALTERNATIVE FUEL BUSES WITH DIESEL BUSES

Mr. CARR. Compare the costs, both initial purchase and life cycle, of various alternative fuel buses with a traditional diesel bus.

[The information follows:]

The following table presents a summary of the relative cost comparison of initial capital costs (in 1991 dollars) between a conventional, 40 foot diesel bus and various alternatively fueled buses:

Diesel	$200,000
CNG	$255,000
LNG	$245,000
Methanol	$233,000
LPG	$250,000

On a life cycle cost basis, the *additional* cost for an alternative fuel bus as compared to a conventional diesel bus is presented in the table below:

Diesel	$0
CNG	$53,000
LNG	$55,000
Methanol	$74,000
LPG	$48,000

STATE USE OF ALTERNATIVE FUEL VEHICLES

Mr. CARR. What has been the reaction of state and local transit officials concerning alternative fuel vehicles? What communities seem to be pushing ahead the fastest with these vehicles?

[The information follows:]

The reaction of state and local officials has been favorable where the costs can be accommodated within the local budget. The communities that seem to be pushing ahead the fastest include: Los Angeles, completing acceptance of over 300 methanol buses; Sacramento, purchasing 75 CNG buses; Seattle, purchasing 360 natural gas (CNG or LNG) buses; New York, 400 buses with diesel engines and particulate traps in service; Tacoma, Washington, operating over 30 full sized CNG buses and planning fleet phase in to CNG; Cleveland, operating 20 medium CNG buses and have constructed transit facility for CNG with intent of purchasing fleet of CNG buses; Chattanooga, will have a fleet of 24 medium sized electric buses; and Texas cities because of the state legislative mandate—Houston, converting entire bus fleet to LNG; Austin, 27 medium sized CNG buses in service with 30 full sized CNG buses on order; Fort Worth, 12 full sized CNG buses in service with 14 light duty buses on order.

Mr. CARR. It is this Member's impression that we have a lot of little things going on in a lot of little different places with a lot of little different directions and there is not much that is sort of bringing it all together. Maybe my impression is mistaken.

We have the Energy Policy Act. We have ISTEA. I mean it is not all an administration's problem. It seems that every time there is something going through the legislative assembly line Congress throws alternatively fueled vehicles on it, but it doesn't seem to all be hanging together.

Has FTA taken any specific actions to try to pull these loose ends together and make it some coherent program out of it?

Mr. MCMANUS. I would ask Mr. Schulman to respond to that. We certainly have enough efforts going on there.

Mr. SCHULMAN. Let me just try to give you a very quick answer. We recognize exactly what you stated, that we had a lot of little efforts going on, but we did that with purpose over the last two to three years to get the initiative underway. At this particular point we are gathering in the data. We are part of the major reporting system that has been set up by the Department of Energy to report on the operations of the vehicles that have been put into place in alternative fuels, and we have developed a new focus and are not looking at the small projects anymore.

We are looking to work with agencies that are willing to make a major commitment so we can get into the questions of facility conversion and some of the other issues that must be faced as one begins to accept the idea of moving from a diesel fleet operation to alternatives. We have also done a number of studies, hygiene studies on some of the safety issues, and we are cataloging and documenting those in synthesis activities. So I think the simple answer to your question is that what we have been doing for the last year and continuing into this year is to try to pull together some of the bits and pieces that we funded over the last four years to answer just the question I think that you are raising.

GEORGETOWN FUEL CELL BUS PROJECT

Mr. CARR. Here is a bit in a small piece that you folks didn't have anything to do with, but it has been with us, and now is an opportunity to change our policy, I think. In the past this committee has supported an alternative fueled vehicle program at Georgetown University. It seems to me that Georgetown University is not a research institution by its own admission, that the testimony before the committee was if anything they were a systems integrator contractor, and it doesn't seem to me that alternative fueled vehicles need system integration.

Can you give me your candid assessment of the value of this project, and does it have any widespread applicability anywhere else?

What about the split funding relationship where there is project participation by both DOE and DOT and where Georgetown University gets money for not doing much but hands the money from the government to the person who actually builds the buses? If they build buses.

Mr. SCHULMAN. Well, let me try to answer that question in context of today. I think that many of the questions that you are asking now are probably questions that in my opinion that could have been asked back a couple of years as we were going through some of the basic research. I think at this particular point we are at the juncture where we are ready to put a vehicle into demonstration. The four or five years of research—some of which was basic research in the development of the fuel cell—are now behind us. Right now there are three prototype vehicles being developed, smaller vehicles and also a standard coach. I would submit that, at this particular point, if there was to be any benefit from the investments that we made in the past, we need to take it just a little step further without abandoning the project, because then we will have no idea of whether it will ever work in the urban bus setting.

I think what we do know is that if the fuel cell, which is just another way of propelling a bus; it is a chemical engine as opposed to the kind of engines that we use today. If it did work, the proof of feasibility that we have already undertaken would show that 200 of these vehicles would emit the same pollutants as one standard diesel bus, so it does have an opportunity. I can't tell you whether it is something that would be picked up all over America once we can prove that it does work operationally, but we are just at the point now of having demonstration vehicles that will run in service. So it seems to me that it is worth taking it the next step and not abandoning it just when we have the opportunity of seeing whether it has a transit application.

Mr. CARR. Well, what can you tell me about the participation of Georgetown University? Why are they involved in this? I know why they got involved, but why are they still involved?

Mr. SCHULMAN. Well——

Mr. CARR. I may know the answer to that, too, but let's see if there is a meritorious argument here.

Mr. SCHULMAN. I will be quite honest with you that this precedes me. I don't know why they were involved. I know that at this particular point they are the demonstration site of one of the three prototype vehicles that are supposed to be produced this year. They run a system, and they are using that bus in their system.

Mr. CARR. Maybe they ought to pay us.

Mr. SCHULMAN. I would have to think about that one. But they are an operator of a system that does run in the Washington area transporting basically——

Mr. CARR. There is a contractor or there is a bus producer, this is being produced in New Jersey someplace, right?

Mr. SCHULMAN. It is the fuel cell itself that is being produced in New Jersey. The bus manufacturer is in California and the large bus that is going to be prototyped this year is going to be in New Mexico, that is a TMC vehicle.

Mr. CARR. My question is why aren't you just granting them the money. What on earth does Georgetown have to do with this?

Mr. SCHULMAN. My colleague is telling me it is the provision of the law that——

PARTICIPATION OF GEORGETOWN UNIVERSITY

Mr. CARR. I understand what the law says, but I am looking for an argument outside the law. I mean, the law does a lot of strange things and maybe the law ought to be changed. In the real world what value added does Georgetown University contribute to this program? I understand they might have added the value—there is a historical reason. They wanted to have an alternatively fueled vehicle for their internal system and when they got this thing going there—there wasn't a lot of activity in this area going on, et cetera, but, okay, so they got the ball rolling. They are still running the ball, and I don't understand that. And the other question is how much of this grant is being taken by Georgetown University as university overhead? Any time you get a university next to any one of these grants, they lop off a big chunk for university overhead, so I mean what——

Mr. SCHULMAN. Well, we can get you and submit for the record the answer to that specific question because I wouldn't have that fact at my fingertips. But I think at this particular point the way we would have to view Georgetown is they are still one of the outspoken proponents of this system. They have requested and have received capital resources to set up facilities in support of these vehicles.

The three vehicles that are being developed are not going to be only here in Georgetown. One is going to be in Georgetown. One is going to be in Chicago and the other one is going to be in California, so there will be three operators that will receive the benefit of the resources that are being made available.

Mr. CARR. I understand, but when you hand out the money, you hand it out to Georgetown, right? You are not handing it out to Chicago. You are not handing it to New Mexico. You are not giving it to California and you are not giving it to New Jersey. Georgetown divvies it up after they take off a freight charge.

Mr. SCHULMAN. What my colleague is telling me is that our funds are actually being transferred to the Department of Energy. The Department of Energy is making the funds available to the manufacturer. I am not quite sure that Georgetown University is getting any funds specifically other than the funds that have come through this committee for facility and also for production of a vehicle that they are talking about. I think perhaps what would be best is if we can submit for the record some facts on how the funds are flowing. While Georgetown is, obviously, one of the most outspoken spokespersons for the project, I am not quite sure that they are receiving all the money that you may be thinking that they are receiving.

Mr. CARR. Well, I would love to be disabused of the idea.

Mr. SCHULMAN. Let us try to give you the facts. We will see if we can do that.

[The information follows:]

Of the $7.047 million funds transferred to DOE from FTA over the past years for the phosphoric acid fuel cell/battery bus development program, $1.275 million was awarded to Georgetown University by DOE to assist them in co-managing the program along with DOE's Argonne National Laboratories. The overhead rate that Georgetown University charges under this program is 38.75 percent.

Mr. CARR. I always operate from the facts. I guess another question would be why not let the DOE pay for the whole thing.

Mr. SCHULMAN. That was a question that I have asked for many, many years on that program. Our research program is so small by comparison.

Mr. CARR. What percent of your total research budget is this program?

Mr. SCHULMAN. Well, this past year it was $2 million of $24 million. I am not sure what the percentage is off the top of my head, but it is significant.

Mr. CARR. Eight percent, 9 percent.

Mr. SCHULMAN. It is a significant segment of our program when one compares it to the hundreds of millions of dollars of research that the Department of Energy has, but now again, sir, I would point out that we are moving to a point where it is going into bus prototype, so it could change the question a little bit.

Mr. CARR. Good.

Mr. SCHULMAN. Back then it was a very good question when we were doing basic research.

SUSPENDED LIGHT RAIL PILOT PROJECT

Mr. CARR. Section 3030(c) of ISTEA provides for the construction of a suspended light rail system technology pilot project. Now, last month the FTA selected three proposals to compete for the construction grant; is that correct?

Mr. SCHULMAN. Ultimately for a construction grant, but at this particular point to move to the next stage, which is the detailed development of their proposals.

Mr. CARR. What exactly is this—what technology is this supposed to demonstrate?

Mr. SCHULMAN. Well, without attempting to be too flip——

Mr. CARR. Go ahead.

Mr. SCHULMAN. It is a vehicle that will operate on a track above ground suspended as opposed to some of the monorails which we are more familiar with which are bottom supported, and in the three proposals that have been submitted——

Mr. CARR. You mean the passenger compartment is suspended from the rail or——

Mr. SCHULMAN. The passenger will be sitting in a vehicle that is below the rail.

Mr. CARR. Well, there is a ride that does that at Busch Gardens. Hasn't that been demonstrated already?

Mr. SCHULMAN. I am not quite sure it is exactly the same technology, but one could say that there are——

SUSPENDED LIGHT RAIL PROPOSALS

Mr. CARR. It is a great ride. I have been on it many times. What are we demonstrating? Would you describe the three proposals that were selected by FTA for this demonstration?

Mr. SCHULMAN. Yes. The one proposal is in the Bay Area, BART. It is going to use a vendor. As you may recall, the requirement was that there be a consortium between a transit operator and a supplier of the technology. The BART system has proposed to be a 3.7

mile route between Oakland International Airport and the coliseum. It will have two terminal stations, and they are still looking to see whether there will be any interim stations within that 3.7 miles. The average speed is estimated to be 30 miles per hour; travel time, seven minutes. The vehicle itself is a 60-foot vehicle with seating capacity for between 180 to 200 persons.

Milwaukee, the vendor is to be a company called Aerobus of Texas. This is a 3-mile system, two terminals, two end terminals with four intermediate stations. Again, speed is approximately 18 miles per hour with seating capacity of 126 persons. This vehicle is a little bit longer, 71 feet.

The last project is in Montgomery County. Here the vendor is Piasecki, again, two end terminals, probably two intermediate terminals, 2½ miles long, a 20-mile-an-hour speed with a seating capacity of approximately 180 persons. This is a longer vehicle, a 90-foot vehicle. That particular project is proposed to run from Montgomery Mall to the Grosvenor Street Station on Metro.

These are the three proposals that are being developed at this particular point.

SUSPENDED LIGHT RAIL COST

Mr. CARR. What are the initial estimates of the cost of this?

Mr. SCHULMAN. At this particular point there are no cost estimates. The law itself is specifying what would be available for implementation should one get to that stage, and that is $30 million. But at this particular point there have been no cost estimates provided.

Mr. CARR. What is the total mileage on all of these?

Mr. SCHULMAN. They range from 2½ miles to 3.7 miles. They are all different.

Mr. CARR. Right, but you have a 2½, you have a 3.7 and you have a what?

Mr. SCHULMAN. A 2½, a 3, and a 3.7, and we have anywhere from two to six stations.

Mr. CARR. Is it possible that you could build all three of these for $30 million?

Mr. SCHULMAN. No, it is not the intent of the agency or the law for us to build all three of those.

Mr. CARR. You are going to select one?

Mr. SCHULMAN. We are going to select one, and there are possibilities that a single one could be built for $30 million.

Mr. CARR. Now, is this being done without regard to any ridership figures?

Mr. SCHULMAN. We will be collecting this data as a part of the information that they are going to be providing for us now as they define their project and their specific ridership figures. They have given us some very preliminary estimates, but the way the law was written, we had a solicitation of interest. It suggested that we select three from the field and ask them to develop more specific proposals starting to get into some of the preengineering work.

I won't even say it is preliminary engineering work but some of the environmental considerations is what we have given them some money for. Now at the end of this phase we have to select one who will then receive $4 million to do the more detailed work on engineering and environmental factors.

Mr. CARR. When would you make that selection?

Mr. SCHULMAN. We have requested that they all submit their information for the next stage to us by the end of the fiscal year. They have all agreed that by September 30th they will have submitted to us all the information that we have asked for to make a selection. Upon receipt of that it will probably take us at least 60 days to analyze it, but at this particular point I would not want to venture a guess when we make the decision.

Mr. CARR. You clearly would contemplate making it in 1994?

Mr. SCHULMAN. Yes, it would be a 1994 decision.

Mr. CARR. How much are you asking for this?

Mr. SCHULMAN. Our budget request did not ask for any money.

DISNEY WORLD MONORAIL

Mr. CARR. Wise choice. Have you ever talked to anyone down at the Disney Corporation in Orlando about their experiences operating the monorail down there? Has anybody in FTA done that?

Mr. SCHULMAN. I have not in context of this.

Mr. MCMANUS. It was done by past administrators.

Mr. CARR. Just anecdotally they have passed on some information to this member that suggests that monorails, among other things, and I guess this is not quite a monorail, this thing that is being proposed, right?

Mr. SCHULMAN. Not quite, but very similar.

Mr. CARR. I had a Disney official who extolled its virtues, as an amusement ride it was very, very well received, but as a serious operating transportation system they prefer buses, not the monorail. The monorail in Disney World is not meant to be a serious transit system and they detailed all kinds of problems. How do you get hysterical people out of these things when they stop in the middle of the track and you have to have cherry pickers strategically stationed all over the place to recover people and to deliver maintenance people to it, and it has serious operational limitations.

Of course, the problem is that everyone goes to Disneyworld and enjoys their short ride on the monorail. Then they go back home and they bug their local city council people about why can't we have one of those. It is certainly state-of-the-art technology. The other side of the story never seems to get told.

Mr. SCHULMAN. Well, I can assure you, Mr. Chairman, when we do get more into these programs, as we get to the next stages, before the agency would participate in any demonstration or implementation of the project, questions such as you are raising would have to be fully answered. I mean, this is the first time these kinds of technologies have been presented to us. While we have had some experience in asking these very tough questions on the safety and integrity of the passenger in similar technologies, should these systems be demonstrated or constructed for demonstration purposes, so when we get to that juncture we will be asking these very same questions that you are raising.

INVESTMENT CRITERIA

Mr. CARR. Well, we will try to work with you on this. It is frustrating for this committee, quite frankly. We are developing criteria, investment criteria, and we would like any project that you approve to be screened by our investment criteria. Obviously, if you don't choose to do it, we will at some later date. The problem we face here is that we are trying to do our job, but you know it is the Appropriations Committee that gets blamed for the pork. That is the way that the story always unfolds, and particularly this latest episode we had here on the enhanced rescission or some call it the modified line-item veto apply only to the work product of the Appropriations Committee. It didn't apply to the authorization committees and the Public Works and Transportation Committee is the committee that puts things like this into the legislation. The enhanced rescission or modified line-item veto would never reach Section 3030(c) of ISTEA, and I dare say that the authorization committee at the time didn't apply any investment criteria of their own, and it really makes it hard on us.

We are trying to fund the general base program, and then fund some other items that come to our attention by whether it is members-sometimes the administration, and do it under criteria that means that we are really trying to assess the economic impact, not the political power of individual Members of Congress or the administration, and the kind of thing that is in 3030(c) is the kind of thing that makes it very, very hard for this committee.

We are trying to do our job, and then we have to deal with stuff like that.

IVHS USE IN TRANSIT SYSTEMS

I have a number of questions on IVHS use in transit systems. That is something that is very interesting to this committee, and we are quite interested in monitoring the mass transit role in that. It seems to me that it can be used more than as an information marketing tool but also as a way on certain select transit routes during certain hours to optimize the flow for the transit vehicle. Of course, that would be subject to the local option of the traffic management system, but it is inherent in the technology that that could happen and could be very helpful to mass transit.

IVHS CZAR

Although the Intelligent Vehicle-Highway Systems receive most of its federal funding from the Federal Highway Administration, there are many current and potential applications of IVHS technology for transit systems. Do you think the creation of an IVHS czar in DOT's Office of the Secretary would be helpful in disseminating the message that IVHS is not only for cars and roads?

[The information follows:]

The IVHS Program is a multimodal effort that includes significant activities of the Federal Transit Administration, the Federal Highway Administration (FHWA) and the National Highway Traffic Safety Administration. While FHWA has done an outstanding job of leading this joint effort of our respective administrations, there are advantages to establishing a stronger focus in the Office of the Secretary. The individual administrations promote the IVHS program collectively. Yet, the impression is bound to remain that it is a highway program, especially with the funding coming from FHWA. For example, there were several Advanced Public Transportation Systems projects selected in the initial IVHS Corridors solicitation. These projects involved advanced information systems and smart card applications for the Smart Traveler. Even these projects are sometimes being referred to by transportation professionals as highway projects because the funds are coming from FHWA.

IVHS USE IN TRANSIT SYSTEMS

Mr. CARR. What do you see as the most promising near term application of IVHS technology for transit systems?

[The information follows:]

The most promising near term application of IVHS technology is an automatic vehicle location system coupled with fleet management systems. Other technologies associated with the fleet management improvements include computer aided dispatch, automatic passenger counters, onboard passenger information, vehicle diagnostics, smart card readers, traffic signal preemption, and automated demand responsive dispatching systems. The bus driver's routine and repetitive tasks are automated which enable the driver to become more of a customer service representative; a sales person for public transit. Fewer fare disputes, safer operations, and happier customers will result by allowing drivers to focus more on the customer, rather than on routine duties and schedule adherence. The human factor in public transit is enhanced by the use of this technology.

There are a number of benefits resulting from these technologies. Labor requirements are reduced for street supervision and data collection which is used for planning and scheduling service. Improvements are made to schedule adherence, passenger safety and vehicle reliability while simultaneously reducing driver stress. Silent alarms provide quick response to crime situations. Driver displays relating to schedule adherence reduces stress and helps job performance. Less passenger delay is experienced by having transfers between modes and within modes timed to coincide with actual, not scheduled, arrivals and departures.

IVHS—RELATED ACTIVITIES

Mr. CARR. What specific activities is the FTA engaged in to encourage the use of IVHS technologies? What amount is included in the FTA's 1994 budget request for IVHS related activities?

[The information follows:]

To support the development of IVHS technologies in public transportation, the FTA has created the Advanced Public Transportation Systems (APTS) program. Our FY 1994 budget request is $3.2 million under Section 26 to support these activities. Other funds will be provided under Sections 3 and 9 as agencies move toward implementation stages.

The overall goal of the APTS program is to enhance the ability of public transportation systems to satisfy customer needs, to increase ridership and to contribute to community goals by providing information on innovative applications of available IVHS technologies from a coordinated operational test and evaluation program. By helping to create this information, and by making it readily available, the APTS program will directly assist transit operators in assessing the field of available technologies to determine optimal systems and products. Armed with this knowledge, transit operators will be able to acquire the systems to enable them to increase ridership, increase operating efficiency, and improve overall performance.

Various technologies are being examined in the APTS program, and many projects involve systems integration of several different technologies. The APTS program encourages innovation and is committed to examining worthwhile approaches that use advanced technology to improve public transportation.

The APTS program is focused on three technology groupings: Smart Traveler, Smart Vehicle, and Smart Intermodal Systems. To help travelers make immediate decisions about travel modes or routes, Smart Traveler technology will provide real-time information at home, work, and in public places. To improve vehicle and fleet planning, scheduling and operations, a number of operators are testing Smart Vehicle technologies, which present new methods of increasing reliability, efficiency and safety. Smart Intermodal Systems involve the integration of APTS technologies into traffic management, transportation fee collection, and other intermodal and non-transit applications of IVHS.

The APTS program supports the following operational test and evaluation activities, organized by technology area:

Smart traveler

Seattle Smart Traveler, Municipality of Metropolitan Seattle, Seattle, Washington;

California Smart Traveler, California Department of Transportation, Sacramento, California;

Houston Smart Commuter, Metropolitan Transit Authority of Harris County, Texas;

Twin Cities Smart Traveler, Regional Transit Board of St. Paul, Minnesota;

Rogue Valley Mobility Manager, Rogue Valley Council of Governments, Oregon

Smart vehicle

Portland Smart Bus, Tri-County Metropolitan Transportation District of Oregon;

Denver Smart Bus, Regional Transportation District, Denver, Colorado;

Baltimore Smart Bus, Mass Transit Administration, Baltimore, Maryland;

Dallas Smart Bus, Dallas Area Rapid Transit, Dallas, Texas

Milwaukee Smart Vehicle, Milwaukee County, Wisconsin

Smart intermodal systems

Traffic Management Information and Fleet Operation Coordination, City of Anaheim, California;

Ann Arbor Smart Intermodal, Ann Arbor Transportation Authority, Ann Arbor, Michigan;

Chicago Smart Intermodal, Chicago Transit Authority, Chicago, Illinois

In addition to these projects, the APTS program is included in the IVHS Corridors program, and is actively involved in the further development of the following operational test proposals:

Denver Smart Traveler Information System, Regional Transportation District, Denver, Colorado;

Twin Cities Advanced Traveler Information System/AVL "Travlink", Minnesota Department of Transportation;

Twin Cities Personal Communication Device, "Genesis", Minnesota Department of Transportation;

Delaware SMART DART, Delaware Department of Transportation;

San Francisco Bay Area Intermodal Traveler Information System, Bay Area Ad Hoc IVHS Committee;

NYC-MTA Travel Information System, Metropolitan Transportation Authority, New York, New York;

Northern Virginia Smart Traveler, Potomac-Rappahannock Transportation Commission

USE OF GLOBAL POSITIONING SYSTEM

Mr. CARR. How do you assess the efficacy of the Chicago Transit Authority program that uses global positioning system data to pinpoint the location of buses and thereby reduce the phenomenon known as bunching?

[The information follows:]

The Federal Transit Administration agrees with and is supportive of the Chicago Transit Authority's (CTA) approach to improving schedule adherence. The CTA is in the final procurement phase for a new vehicle location and fleet management system that will include adaptive traffic signal control. Not only will the bus driver be aided in keeping his bus on schedule by a visual display showing whether he's on schedule, but he'll be helped back on schedule when appropriate. A systems approach will be used to extend green times, shorten red times, and in some instances, preempt a traffic signal to regain schedule time for a late bus. Studies by CTA have shown that by correcting a bus in the early stages of schedule slippage, the system degradation to "bunching" can be eliminated. A careful evaluation of the operational test will be conducted to determine the efficacy of this technology application.

Mr. CARR. Do you know how the costs and benefits of using GPS for bus systems compare?

[The information follows:]

Transit authorities have been investigating the use of various vehicle fleet management systems since 1968 when the Chicago Transit Authority installed its Monitor System. A number of systems have been installed and evaluated since then and have shown positive benefit cost ratios. Advances in modern electronic technology have lowered the costs of these systems while increasing the potential of higher benefits through greater capabilities.

The Global Positioning System is an example of this situation. A GPS-based Fleet Management System costs approximately $7,000 per vehicle. This includes the cost of the GPS receiver, the data radio and control head, communications links, system computer and software, and the dispatch consoles.

The benefits from increased passenger/driver security, improved schedule adherence, decreased on-the-street supervision requirements, reduced data collection costs, etc. can exceed these costs by a factor of 3–4 over the life of the system. The potential of even greater benefit/cost ratios exists as costs continue to decline and new uses for Fleet Management Systems evolve.

Mr. CARR. How much would it cost to install a GPS receiver in each bus at the factory. If the FTA were buying most buses centrally, is this the type of action that could be taken relatively quickly and cheaply?

[The information follows:]

The simple answer to your question is "approximately $400" but this answer does not consider the variables in defining the system requirements. A complete GPS Fleet Management System costs approximately $7,000 per vehicle and includes communications, vehicle location, central dispatch, data processing/software, and communications capabilities. Each of these capabilities must be defined and considered in relation to each other and to individually-defined operational requirements.

In practice, it will cost very little more to install these systems in the field as it will to install them at the factory once a Vehicle Area Network (VAN) is incorporated in buses. The VAN will permit the local transit operator to simply "plug-in" various equipment without re-wiring the bus; thus eliminating a major cost source. With a VAN, the transit operator will simply have to drill holes for mounting brackets and plug-in the components. By not installing these systems at the bus manufacturing facility, local options regarding system configuration and requirements will be preserved.

Through FTA's sponsorship, a Vehicle Area Network standard has been developed and is now being adopted by the Society of Automotive Engineers (SAE) as Standard J–1708T. This standard defines an open architecture standard for communications between microcomputer systems in transit vehicle applications. J–1708T will permit vehicle manufacturers and transit authorities to incorporate new or different electronic components into a bus by simply plugging them in without rewiring.

TRANSIT FARE COLLECTION AND SMART CARDS

Mr. Carr. Explain how transit fare collection can be improved using "smart cards." Are there any ongoing demonstration projects using smart card technology?

[The information follows:]

First it should be clarified that the term "smart card" encompasses a wide scope of technology with varying capabilities. The smart card systems addressed here refer to the placing of Integrated Circuit (IC) chips in a plastic card, which can accept or transfer data to and from a reader through one of several means.

Transit fare collection can be improved through smart card systems several ways. While many of the advantages listed below are possible with lower technology systems, the advantage of the smart card system is that its inherent flexibility and capacity allow it to easily adopt all or just a few of the following capabilities.

Smart card systems ensure that fare collection is done electronically. By eliminating the need for cash, smart card systems bring several benefits including increased cash collection security, reduced fraud and fare evasion, elimination of an exact-fare requirement, and customer convenience. With more advanced card technology, smart card systems will support the debiting of cards through radio frequency technology. This would mean that the card could remain in a pocket or purse and still be read, allowing the system to read the card both at boarding and off-loading. This capability would allow transit operators to introduce distance based fares.

In addition smart card systems will make it easier for third party billing of transit trips. This will reduce overhead and facilitate paratransit and social service subsidization programs, as well as employer programs to subsidize employee work trips. With a smart card system an employer could establish a transit benefit program through a local transit operator by setting up an electronic account for each employee. Each participating employee's "authorized work trip" could be encoded in their account, specifying time of day and route. The card system would ensure that only previously identified work trips could be billed to the employer.

Perhaps the biggest potential for smart card systems is in their ability to integrate the fare systems of several different transportation providers. One card could be all that is needed to access parking, bus, rail, highway tolls and other transportation services. This capability would provide great convenience to the traveling public by eliminating some of the inconvenience of transferring from one mode to another. An integrated fare structure among different operators could allow people to pay just one fare, regardless of the number of transfers.

Smart card systems will also facilitate the collection and sorting of ridership data for route planning and marketing. By recording ridership levels by route number and time of day, planners will be better able to make scheduling decisions to benefit the greatest number of people.

FTA has six projects underway to further examine and demonstrate the capability of smart card systems and investigate advanced card technology:

The Ann Arbor Transportation Authority is developing a Smart Card fare collection and parking payment system. The system uses a single card for both bus fares and parking fees, eliminating the existing system which requires a monthly payment for a parking pass, which has no transit application. The new card will be usable both as a parking pass for city and university parking and as a transit fare card. Electronic card readers mounted on the buses will ensure that the abuses common to "flash" type passes do not occur.

FTA is supporting the efforts of the Washington Metropolitan Area Transit Authority to develop a single card that could be used for bus, metrorail and parking.

FTA is also supporting the efforts of the Chattanooga Area Regional Transportation Authority to conduct an analysis of potential advanced fare media applications for parking and transit bus applications.

As part of the IVHS Corridors program, FTA is working with Delaware DOT in developing the *Delaware SMART DART* proposal to evaluate the use of smart cards for administering employer provided transit benefits and bus fare collection on Wilmington's transit system.

In Delaware County, Pennsylvania FTA is supporting the efforts of Community Transit to develop a ride tracking system for their paratransit service using some form of advanced card technology.

FTA is supporting the Regional Transit Board in St. Paul, Minnesota to look at potential card systems to improve billing and administrative systems for their paratransit services.

MOBILITY MANAGEMENT PROJECT

Mr. CARR. We have also an interesting thing going on in mass transit in southeast Michigan. It has to do with the notion of trying to coordinate between transit and paratransit where they are actually doing a transit-based computer reservation system where everybody is hooked into it and a phone call—you don't care what the logo is on the side of the bus or the vehicle. What you are interested in is getting from place A to place B, and there are a number of paratransit organizations, a lot of them nonprofit, a church van or something like that that can, particularly on very thin and low density areas, can be scheduled and coordinated.

I would be interested in getting your reaction to some of those activities. Again, if there is anything in the transit area that I am interested in, it has more to do with marketing and promotion and see what you can do to get ridership up on the systems we have rather than building new systems for which there is no demonstrated need.

[The information follows:]

The FTA is very interested in developing fully integrated transportation systems of coordinated transportation providers which will allow "one-stop shopping" for public transportation. The multiple providers could consist of either public, private non-profit or private for-profit transportation providers. The travel modes provided could also be as varied including bus, taxi, vanpools, carpools or rail and could include various funding sources. This unified reservation/payment system is now possible due to the advances in navigation and communication technologies. The concept, called Mobility Management, is similar to the work of a travel agency where a central point of contact is established for all tripmakers. Information on the various travel choices is provided, reservations made where needed and financial transactions accomplished between the rider and the provider making this a very "user friendly" system.

A mobility management system being initiated in rural Oregon is going to allow this "one-stop shopping" for travelers unable to use fixed-route transit. The transportation providers who have been involved in the project development include a transit agency, taxi companies, and several human service transportation providers. An east coast version in Winston-Salem, NC, will operationally test the mobility management concept for human service transportation and develop a plan for fixed-route transportation service.

HONOLULU PROJECT

Mr. Carr. I would like to ask you a couple questions about specific properties and specific problems, and then I have one question relating to just overall training, and then I would expect that within about 20 minutes we would be asking our friends at WMATA to come up to the table.

The subcommittee understands that the Honolulu city council voted 5 to 4 not to proceed with the $2.3 billion, 15.9-mile fixed guideway system. The major problem seems to be finding sources for the local share of capital and operating costs associated with this system. As a result of their action out there in Honolulu, what is your current assessment of the Honolulu project and what is the total Federal funding that remains uncommitted?

You might also tell us how much Federal funding has already been spent and may the committee have your assurance that no part of the unobligated Honolulu funding will be used for any other purpose without the prior approval of this committee?

Mr. McManus. Mr. Chairman, on May 3rd we sent a letter stopping payments under both Section 3 and Section 9 grants that were approved last year to fund preliminary engineering for the project stating that it is inappropriate to drawdown funds from these grants for a new and significantly restructured project, and we advised them we would approve any further drawdowns only on a case by case basis. City staff from Honolulu is coming to San Francisco today to explain how they intend to finish up their preliminary engineering activities, what they propose to do with the remaining funds and to describe their franchise concept. I understand the city council is scheduled to vote on May 26th on two resolutions, one that endorses rail transit and another which opposes the project. We have made obligations to date of $36.4 million, and there are $75.9 million in unobligated earmarks, which certainly would be on hold in light of what is going on out there, and that is as much as I can tell you today.

Mr. CARR. Now the $36 million is spent and gone?

Mr. MCMANUS. We have obligated it. What the drawdown is I don't know. I would have to get the disbursement.

Mr. CARR. Do we have your assurance you are not going to take that money for any other use without the prior approval of this committee?

Mr. MCMANUS. Yes, sir.

Mr. CARR. Thank you.

Mr. MCMANUS. We have stopped payments under the engineering grants.

DETROIT LIGHT RAIL SYSTEM

Mr. CARR. The ISTEA included a provision of $20 million to do an alternatives analysis and I believe some preliminary engineering and design for a light rail system in Detroit. Have you spent any of that money?

Mr. MCMANUS. No, we haven't.

Mr. CARR. My agreement with the former administrator, Mr. Clymer was that none of that money would be spent without discussing it with this Member first. Is that your understanding?

Mr. MCMANUS. That is correct. We are very conscious of your comments last year for the record.

Mr. CARR. I wanted to remind you about that one and make you aware that nothing has changed in the last year. I remain opposed to spending that amount of money, and while southeast Michigan clearly has some transit needs, it is an under-served area. I wish that the southeast area of Michigan would get together in a cohesive, planned and coordinated way to propose to the voters a local source of dedicated operating revenue like every other system in America save for perhaps Pennsylvania's situation, that southeast Michigan get to the point of being a property that was combined the way it was supposed to have been under the legislative mandate of many, many years ago by the State legislature. I wish that they would do all those things, but until they do I don't think we in good conscience could take Federal dollars and needlessly raise the hopes of some in the southeast Michigan area that large sums of Federal dollars would be flowing to them any time soon.

They quite clearly have some work to do, and I hope they do, and I would be glad to work with them in making sure that happens, but until then I think we have a situation where we shouldn't—we should cut the Federal Government's loss. It pains me to say that. I was reflecting on Honolulu. Mr. Abercrombie was here the other day and painfully had to ask this committee and thereby through us to you and the entire Federal Government not to fund a major capital project in his area which would benefit some of his people. I am cast in a similar situation, but I can't in good conscience support wasting money even if it is in my own State until they get to a point where they are not going to waste it. We already had that people mover experience which is an embarrassment, and we don't want another one.

JACKSONVILLE DOWNTOWN PEOPLE MOVER

Speaking of people movers, we have one that is a problem, and it is ongoing. If the subcommittee's investment criteria had been in place several years ago, one project that would not have been funded is clearly the Jacksonville, Florida, downtown people mover, known as the automated sky way express. The latest 3(j) report by FTA indicates that phase one is averaging only 1,600 riders per day compared to a projection of 10,000.

Now, the only defense I can find for Jacksonville is that they were required by a variety of fits and starts, I guess, to build very small segments of their total project, and as a result the segments are so small, the one segment, I think, is .7 miles, and it is so small that hardly anybody is going to ride for .7 miles. That is a little something in Jacksonville's defense. I think candidly if the entire system had been built all at once, it would not have met its ridership projection. The original ridership for the total completed system was 50,000 per day. That has been revised downward to 42,000 and then more recently to 38,000, which is the current estimate contained in your Section 3(j) report.

The FTA apparently believes that estimate also to be unrealistic. Apparently Jacksonville authorities agree with you because in testimony before this committee last month, they revised it down to 25,000. Now, I guess my question is we are half of what they originally said was going to be the case. What is your risk assessment? That is what is the percentage probability that Jacksonville fully completed would even reach 25,000?

Mr. McMANUS. Well, we are very skeptical of the estimates on these distribution systems because of the experience that we have seen. It is a high risk.

Mr. CARR. It is a high risk that they would make 25,000?

Mr. McMANUS. Yes.

Mr. CARR. We have one people mover system. There were three to be built—Detroit, Jacksonville and Miami, but Miami—or Jacksonville is just sort of coming along. My understanding is that Miami has avoided being a major embarrassment; is that right?

Mr. McMANUS. Yes, I think so.

Mr. CARR. But its ridership still is far less than it was projected for; is that right?

Mr. McMANUS. Yes.

Mr. CARR. Can you give us those numbers, those percentages?

Mr. McMANUS. Not offhand. I would have to give them to you for the record, but that is the impression I have.

[The information follows:]

In February 1993, Miami's Metrorail system carried 53,700 riders on an average weekday. This compares with a forecast of 239,900 for the year 1985. Average weekday ridership on Metrorail has increased from 35,400 in 1988.

Miami's Metromover system carried 9,100 riders on an average weekday in February 1993. This compares with a forecast of 41,000 for the year 1985. February 1993 ridership is not representative, however, because construction of the Metromover legs to Omni and Brickell caused the Metro Dade Transit Agency to operate only the inner loop. Before the outer loop was temporarily shut down for construction, daily Metromover ridership was typically in the 11,500 to 12,000 range. Average weekday ridership was 10,800 in 1988.

PEOPLE MOVER PROJECTS

Mr. CARR. Do you have anything in your 3(j) report that, maybe what these three demonstration projects demonstrated is that you shouldn't build anymore.

Mr. MCMANUS. Well, the people mover activity got going as a spin-off of the emphasis on technology in the 1970s, and at that time there even was an invitation to transit properties to propose a downtown people mover demonstration. Back when John Volpe was Secretary in the early 1970s, the idea was to place one of these systems in an urban setting and see what the impact would be on development. The survivors of that initiative were ultimately Detroit and Miami. They, over a period of years, kept at it and kept at it. Miami found a way to tie it to their rapid transit system, so it was really a distributor for them. We built the people mover system in Morgantown, but that wasn't in enough of an urban setting to achieve that result.

We also had discussions at that time, so that it doesn't sound so much off the wall, with the Rouse Company when they were building Columbia. We asked them what effect would this kind of technology have had on the way they designed the town. They said it would have had no effect on the way they designed the whole town, but it would have affected the way they designed the core, the central business district area of the town. So there was a reason for trying to find out what would happen here. Right now certainly it is not on our scope as something we are supporting. Jacksonville came on the scene after Miami and Detroit, and the administrations at the time opposed the Jacksonville project.

During the Reagan years the FTA administrators did not support this, and so it was done in little chunks and now they are in a situation where the problem is to make the best of a bad situation from a public works management standpoint, but in putting together the 3(j) report on the use of Section 3 funds for fiscal year 1994 we were not able to support any further funds for this project.

JACKSONVILLE SKYWAY

Mr. CARR. Well, what do you think we do with this project?

Mr. MCMANUS. Well, we do have the——

Mr. CARR. We have what, about $50 million of the Federal dollars involved. They want another $100 million. What can we do to cut the loss for the Federal taxpayers while still not leaving Jacksonville with cement piers in the middle of their town with nothing on top of them? What recommendation do you have?

Mr. MCMANUS. Well, we have a contract with them, a full funding contract for that north extension under which they are obliged to finish that extension irrespective of whether there is any more Federal funds provided, and there is——

Mr. CARR. How much Federal dollars would be available to—what would it cost to finish that?

Mr. MCMANUS. The north extension?

Mr. CARR. Yes.

Mr. MCMANUS. The bid they had for completion came in at $50 million, I understand, which left a $12 million budget shortfall. They have——

Mr. CARR. So, in other words, they don't know where $12 million of that is.

Mr. MCMANUS. Apparently so, and for their project there are $15 million in prior year unobligated earmarks, but that was established in an earmark for the south extension, and the construction, the civil works construction is on the north extension. The contract is as I have described it. They are in a full funding contract with us, but those are the resources and that is the——

Mr. CARR. The full funding contract assumes that we give you the money?

Mr. MCMANUS. That we give them the money, yes.

Mr. CARR. The committee gives you the money?

Mr. MCMANUS. That is past years' money. That is money that has been obligated.

Mr. CARR. The full funding contract for the north extension?

Mr. MCMANUS. Yes, sir.

Mr. CARR. So if we give no more money to that, they are going to have to find $12 million?

Mr. MCMANUS. Yes, they are.

Mr. CARR. At that point how much money will we have already given?

Mr. MCMANUS. Let's see. Well, we will have given them the $28.8 million we have obligated for the north extension. The section that has already been built I don't have a number for on this chart because it is in operation.

Mr. CARR. We have a $26.8 million.

Mr. MCMANUS. That sounds right, it was something in that neighborhood.

Mr. CARR. Their total—I am having a hard time coming up with these figures. The number I have for their second phase or the north extension was $38 million.

Mr. MCMANUS. Well, I mentioned the Federal, the $28 million is the Federal share.

Mr. CARR. Right. And so that is a delta of about $10 million, a little less than $10 million, about $9 million. Now, where did the $12 million come from?

Mr. MCMANUS. They went out to contract for the work beyond the civil works, for the command and control system to go on with the project, and the bid they got was $12 million beyond the $38 million that consisted of our $28 million plus the local share.

Mr. CARR. I guess I am still not following. $38.4 million included the command and control?

Mr. MCMANUS. Yes, the $38.4 million was the whole project.

Mr. CARR. Right. So they ended up—so their local share was $9 million, and the contract they got is $12 million over that?

Mr. MCMANUS. Yes, it is $12 million over the $38 million.

Mr. CARR. So in other words the Federal Government, they already have that money and they have already spent that money and now they have to come up with an additional $12 million to complete the north extension?

Mr. MCMANUS. That is correct, based on the bid that they received, but that contract has been terminated.

Mr. CARR. They didn't accept that bid?

Mr. MCMANUS. They did not accept it.

Mr. CARR. So they have gone back?

Mr. MCMANUS. That is the problem.

Mr. CARR. This is the equipment stuff?

Mr. MCMANUS. Yes, that is correct.

Mr. CARR. Are they building all the physical structure, the piers and guide way totally with Federal money then?

Mr. MCMANUS. Yes, part of this contract. Part of the full funding contract.

Mr. CARR. But I mean essentially the Federal share is to put the physical thing up there and then their share is basically to——

Mr. MCMANUS. It is a collateral cost share as you go along. It doesn't have to be. They can put theirs up at the end, but I believe this is being managed as it goes along.

Mr. CARR. Well, I guess one of the thresholds, we are going to need some help from you in figuring out at what point do you have a capping of this project. One would suggest, among others, that you finish the guideway portion, the elevated guideway portion. I mean not to finish it would be an eyesore among other things. You have various pieces of construction stopped in midstream and I mean no one wants that in their downtown, but you don't have to buy any control cars and all the other stuff to run on top of it. You can maybe wait until a better day, when there's a larger local share, maybe something else happens downtown and they can figure out later on how to put the cars on the guideway, but at least they would have a guideway that they could look to some day. Is that unreasonable?

I am just throwing things out.

Mr. MCMANUS. You are agonizing about it the same way that we did in working with Miles Francis down there, their manager, who was trying to make the best of it. We certainly did consider a number of options in talking with them, including, you know, the use of the whole ISTEA earmark and where that would get them. That would leave them $45 million short of the south extension plus their problem with the north extension, and so we talked about different options. What would be the good government way out of this? We talked about it when the department was considering the 3(j) report, but we just came down to saying in the face of the other demands on the program and the merits of other projects, that we weren't recommending anything further.

Mr. CARR. If we took your recommendation, what is the consequence of that?

Mr. MCMANUS. The consequence is that they have to find $12 million. It could be more than that if they went out for another bid. There could be an escalation. I just don't know.

Mr. CARR. Now, is some Federal money being used on the third over the river extension?

Mr. MCMANUS. Just for the bridge, that has been done.

Mr. CARR. That was ISTEA, wasn't it? Didn't they do a transfer on that?

Mr. MCMANUS. There was a transfer on it. It wasn't ISTEA. It was pre-ISTEA. That contemplated going across to the south.

Mr. CARR. So an option is just to give them no more money?

Mr. MCMANUS. That is one option, that is correct.

Mr. Carr. Does that leave them with an undesirable-well, I am sure they don't desire that result, but does that leave them with—does it leave them with a downtown eyesore or what does it leave them with?

Mr. McManus. It leaves them with an obligation to complete the project under our contract.

Mr. Carr. If they don't have any money, then what?

Mr. McManus. There is some legal action. I am glad I have a lawyer here. It leaves them with a problem. It leaves us with a legal problem of what to do if we ever got to that point. That is what the contract calls for. This is full funding. That is an ambiguous nomenclature. I remember when it was invented years ago when Mr. Patricelli was our administrator. He said full funding, this is full, this is all you get. The grantee thought it meant full funding no matter what the cost was, and we finally got across the idea that full funding meant this was a cap. The contracts are drawn very tightly to say that.

Mr. Carr. So your basic position is you have given them what you are obligated to give them and they are obligated to then patch together whatever else is required?

Mr. McManus. That is correct.

Mr. Carr. You never committed to giving them the third extension across the river?

Mr. McManus. No, we did not. We opposed it all the way. The only other thing we have done in cases like this, though I don't know how this contract is actually drawn, is to allow the use of Section 9 money for overrides on full funding situations.

Mr. Carr. Well, that happened in the Detroit experience.

Mr. McManus. Yes, it did.

Mr. Carr. They were able, against my better advice to them, with Administrator Stanley, they made it an agreement to take Section 9 bus money. Basically they borrowed from Peter to pay Paul and guess what? Today, southeast Michigan is crying about the fact they don't have enough money for buses. Well, they gave it all away to pay for the people mover that nobody rides. So then they come back and want some more because they are in extremis. Jacksonville could do that presumably. What is the vintage of their buses? Do we know that?

Mr. McManus. I am sure we know it. I happen to have it before me. They could also try for flexibility funds in the highway title. I am told the average age of the JTA bus fleet is 7.3 years, which is a little below the national average.

Mr. Carr. Well, I have some questions for the record that we will want to ask about Jacksonville.

JACKSONVILLE DOWNTOWN PEOPLE MOVER

What is the current status of the various phases of the Jacksonville project?

[The information follows:]

The Jacksonville Automated Skyway Express has been planned in three segments totaling 2.5 miles in length. The first 0.7 mile downtown phase has been completed and is operating. The second phase is a northern 0.6 mile extension which the Federal Transit Administration and Jacksonville Transit Authority entered into a full funding grant agreement and construction has begun. The estimated cost to complete the 2nd phase is $12 million above the capital cost in the full funding grant agreement. The third phase is a 1.2 mile southern extension under preliminary engineering, which has not been constructed. This south phase has an appropriated earmark of $15 million.

	Total capital cost	Federal share	Local share
1st phase (operating)	$35.6	$26.8	$8.8
2d phase (under const.)	[1] 38.4	[1] 28.8	[1] 9.6
3d phase (prelim. eng.)	[2] 134.0 est.	[2] 107.2	[2] 26.8

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[1] Full Funding Grant Agreement contract costs are shown.

[2] Costs for the 3rd phase are current estimates and include costs to complete phase 2.

Mr. CARR. This year's Section 3(j) report mentions that high bids received on certain parts of the contract required Jacksonville to consider alternative technologies for the entire system. Please explain this situation and what the local authorities are doing to address it.

[The information follows:]

The first segment of the Jacksonville Downtown People Mover (0.7 miles) is serving about 1,600 riders per day—significantly less than the original estimates of 10,000 riders per day. Now that Phase II of the project is being bid (the Northern Extension, 0.6 miles), its ultimate cost will be affected by the technology used in completing the system. The original contractor for the first segment, MATRA, used proprietary technology. After lengthy negotiations for Phase II, Jacksonville Transit Authority (JTA) and MATRA were unable to reach an agreement that properly addressed Federal requirements. Specifically, the MATRA bid for systems and vehicles was $12 million over the FTA Full Funding Grant Agreement with JTA for the North Extension. Hence, FTA rejected the contract. JTA has indicated that if the Congress will earmark a Full Funding Grant Agreement (FFGA) for the entire starter line, that the systems/vehicles component of the project could be competitively bid, thus including the potential for alternative technologies and possibly lower costs. FTA's position is that, since the merits of the proposed extension have not been demonstrated using Section 3(i) criteria, the local community will have to find alternative sources of funding to complete the Phase II Northern Extension.

Mr. CARR. What is the local share for the Jacksonville Project and what does it represent? For example, is it cash, donated land, parking garages, or something else?

[The information follows:]

The local share for the north extension of the Jacksonville Automated Skyway Express is 25% of the $38.4 million project cost, or $9,603,408, in cash, per the Full Funding Grant Agreement.

Mr. CARR. Given the history of this project, and the likelihood that it will always be a drain on cash, is there some way to restructure it to limit the federal taxpayer's exposure? For example, is there a way to scale back the design of the project, or a way that increases the local financial contribution?

[The information follows:]

FTA recommends that the provision in the full funding grant agreement between Jacksonville and FTA be fulfilled. This means that Jacksonville must fund the difference between the full funding grant agreement and the actual amount needed to finish the north extension estimated to be $12 million.

FTA recommends that the south extension be discontinued.

Mr. CARR. The Section 3(j) report states that because the project predates the policy, a cost effectiveness index was not prepared for the Jacksonville project. How difficult would it be to prepare such an index? Do you have any idea today what the likely index of the Jacksonville project is?

[The information follows:]

Several months of effort would be required to prepare a cost effectiveness index for Jacksonville, in accordance with current Section 3(i) requirements. Jacksonville would have to design and estimate the cost of a complete Transportation System Management (TSM) option to serve as a baseline alternative. The ridership models would have to be developed on this alternative as well, including estimates of new riders, travel time costs for these riders, annualized capital costs, and annualized operating and maintenance costs. FTA would review the resulting information, the models, and their input assumptions. Because the final capital cost has not been determined, and actual ridership has not reached JTA's best estimate, it would be difficulty to calculate any cost-effectiveness index using available information. As the Section 3(j) report indicates, we believe the index for Jacksonville would be high, meaning that the project would not be competitive with other candidates for funding.

CASE LOAD REVIEW

Mr. CARR. Next year we are going to schedule this hearing for all day because there are so many things going on that I want to talk to you about. I hope we can talk at least informally about some of these things. We want to work together with you. We don't want to be at cross-purposes. We might not always agree on a priority or a method, but we do want to work it out with you.

Now, of all these other projects that we have that are ongoing, are there any that you can identify to us that are in trouble? Are there any Jacksonville-type projects that you can advise this committee to watch out for? Even those that aren't toward any commitment, but you might have seen some paperwork on that you are kind of hoping that the Congress of the United States is not going to fall all over itself to give this one money?

Mr. MCMANUS. I would like to review the case load from that standpoint. We have project management oversight contractors that are engaged with any project that is in the preliminary engineering stage. From that point on we track what is going on, and it is meant to be a problem avoidance resource, so I would like to check with that.

Mr. CARR. Well, sadly this committee has created problems for you, and we are going to stop doing that, but that means we have to work together.

Mr. MCMANUS. It does.

[The information follows:]

Each project in the new start pipeline faces its own set of issues and problems. In the typical case, these problems are surmountable, and are addressed as the projects are developed through the alternatives analysis, preliminary engineering, and final design phases. The Section 3(j) Report presents the Department's views on which projects should receive funding support in 1994. Critical issues are summarized in the project profiles section of the report.

Projects recommended for Section 3 New Start funding in fiscal year 1994 are: Los Angeles (MOS–2), St. Louis (Metrolink to Airport), Portland (Westside LRT to 185th), Dallas (South Oak Cliff), New York (Queens), Los Angeles (MOS–3), Atlanta (North Line), Pittsburgh (Busway), Houston (Regional Bus Plan), New Jersey (Urban Core), Baltimore (LRT Extensions), Chicago (Central Area Circulator), Orange County (Transitway), San Francisco, Maine (Portland to Boston Commuter Rail), and Maryland (MARC). FTA is watching the Chicago project closely due to a concern that the operation of a street-running trolley in the downtown area, as currently proposed, could cause pedestrian and traffic conflicts that may compromise the project's safety, speed, reliability, and cost effectiveness.

Projects not recommended for New Start funding in 1994 include: Honolulu, Salt Lake City, and Boston (South Boston Piers). The Honolulu and Salt Lake City projects currently face serious financial difficulties. The Boston project is not recommended because it serves an area where near-term development prospects are in doubt. Other projects are not recommended because a preferred alternative has not yet been chosen or because project studies have not yet reached a point where costs, transportation benefits, impacts, and financing have been defined.

COST EFFECTIVENESS GUIDELINES

Mr. CARR. We are going to watch to make sure you don't reindicate problems for us, but we are looking at preliminary engineering and design figures.

Now, your guideline—and I am not sure I totally agree with this guideline, but I don't want to commit to it, but I will use it for the purpose of the question. Your guideline is if it is a cost index, cost-effectiveness index, there is a cost per new trip as you have defined it, and you have a formula that you are using and you have a guideline that says that if it is in the six to seven-dollar range that is probably okay. That is probably a cost benefit that is okay.

Mr. MCMANUS. We have actually stretched that to six to ten dollars, six to nine or ten has been the range.

BALTIMORE JOHNS HOPKINS EXTENSION

Mr. CARR. Okay. But you have under construction Baltimore, Hopkins RRT, and that comes to 14. That is 50 percent higher than your highest range of cost effectiveness. It is under construction now. Somebody somewhere wanted it to happen.

Could you enlighten this Member of Congress?

Mr. MCMANUS. The extensions?

Mr. CARR. I have Baltimore Hopkins RRT. Yes, it would be an extension.

Mr. MCMANUS. Oh, the Hopkins? That was with the use of Interstate Transfer funds. If we are talking about the same project, it is the extension to Johns Hopkins. We took a different view of that because it was entitlement money that the city chose to allocate to this transit system instead of using it for highway construction, and——

Mr. CARR. That is a good example, though, and it is what I would like to say to people who might be listening. The point is that if you have cost effectiveness indexes that are really designed to make sure money is spent for an economic rate of return that is acceptable, under the so-called flexibility of ISTEA, local authorities can override good economic sense and go do something that is kind of economically dumb just because they are responding to some local pressure, I suppose. I guess what I am saying is the formula—see, we often get accused, if you name a project in a bill, whether it is an ISTEA bill or it is an appropriations bill, that is pork and that is bad.

On the other hand, it seems as though through the flexibility features of ISTEA it allows local officials to do exactly the same thing. It doesn't get called pork. They don't have a line item veto or an enhanced rescission coming after them, but they can go out and spend money in a cost-ineffective way. Is that unfair?

Mr. MCMANUS. What you have said is true, that they may do that. They would have to survive a priority-setting process if it is apportioned money. They have to sort out their demands on that apportionment. In the case of this project in Baltimore, they saw cost-effectiveness in their own terms; they didn't see it in these terms.

Mr. Carr. Well, we all do.

Mr. McManus. It was a high cost extension that produced good benefits for them, but it was very high cost construction.

Mr. Carr. It was reported in *The Baltimore Sun* in an article dated April 25th of this year, and I am not one to defend the media all the time, but it says this light rail so far has ended up costing Maryland taxpayers $8,804 per round trip customer.

Mr. McManus. That's the light rail project.

Mr. Carr. Am I mixing projects here, but there are extensions to this one?

Mr. McManus. Yes, there are extensions to this one.

They are relatively low cost if we cost share, and Baltimore has developed their central light rail line, to which the extensions would be connected with their own resources. They haven't used our resources.

Mr. Carr. So they have wasted their resources. Now they are asking us to waste ours.

Mr. McManus. Well, comparatively speaking. If we finance the extensions along with them, we would be financing some 18 percent of the cost of the whole system.

Mr. Carr. $77 million I am told?

Mr. McManus. Yes.

Mr. Carr. So Maryland, based on Maryland and/or Baltimore, based on their lack of using good investment criteria and how to go to some economic discipline have managed to unproductively spend some of their money or at least from our viewpoint, and now they are asking us to the tune of $77 million we ought to come and join them?

Mr. McManus. We are already in it for half of that, and there is some, I think, $36 million to go. Yes, John has reminded me that in the authorizing legislation there are exemptions from the cost-effectiveness criterion if a project utilizes or wants a cost share from the Federal Government of less than one-third, the cost-effectiveness criterion doesn't apply.

Mr. Carr. I think that is an important thing you just said, that the ISTEA——

Mr. McManus. Says that.

Mr. Carr. The authorizing committee.

Mr. McManus. That is correct.

Mr. Carr. The authorizing committees that aren't reached by enhanced rescission or line-item vetoes or modified line-item vetoes say that you don't have to have any criteria if you are just going to waste one-third of the money.

Mr. McManus. Or $25 million. They use the two indicators. I believe the other——

MIAMI DOWNTOWN PEOPLE MOVER

Mr. Carr. Now, my friends on the authorizing committee wonder why I am upset with them.

Let's talk about the Miami DPM extension. Now, that one is under construction, and it is $15 for a new trip. Are we still building the people mover extensions down there?

Mr. McManus. They still have unobligated earmarks of $50 million, $50.7 million.

Mr. Carr. They have $50 million down there that they still haven't spent?

Mr. McManus. That is correct.

Mr. Carr. That is down from about $150 million a couple years ago.

Mr. McManus. That is so.

Mr. Carr. What is your view, can we cut our losses there?

Mr. McManus. Well, they will be applying for that money.

Mr. Carr. That was a full funding agreement?

Mr. McManus. It is a full funding agreement, yes.

Mr. Carr. So it appears there is nothing much—we could cut it off, I suppose, and they could probably sue us?

Mr. McManus. At some price, I would think, yes.

Mr. Carr. Have we ever cut somebody off and had them sue us? What is the liquidated damage and all that stuff?

Mr. McManus. I am trying to recall. We must have, but I can't recall.

Mr. Carr. Everybody is shaking their head, no.

Mr. McManus. I don't have eyes in the back of my head.

PROJECT SEGMENTS

Mr. Carr. It is a trait you ought to develop. If you are an elected official you develop that trait.

Now, we are in final design on a number of systems here, and they seem to come in okay according to your criteria. However, for the Los Angeles, North Hollywood and Los Angeles midcity, and Jacksonville, of course, we have already discussed that one. There is no estimate, apparently, or there is no figure or not available or whatever.

Incidentally, I don't quite understand how you can not have available by the time something is under construction. I can see how you might have—there are a number in the under construction category, Houston Expressway, HOV and the North Jacksonville people mover extension which we have talked about, how—and they have got Los Angeles MOS-2. How can you not have something available when they are that mature in the system?

Mr. McManus. That is a good question. North Hollywood was incorporated, I think, at the beginning of the whole project in the cost effectiveness for the whole system, and it was forced to be built in segments, you know. It originally was an 18-mile or so line, and to consider the Federal role in financing of that project, it was only fair to look at the cost-effectiveness of the whole thing. Then it was compartmentalized into segments because the cost was such that it would have to be carried out over a period of years.

The same thing is true of the WMATA system, although it was done retroactively. We were asked to do that after the system had already been started.

Mr. CARR. We have down here under final design of the Portland Westside project, which we have been hearing a lot about from our colleagues, but it comes in at 19. Why is that so high, do you know?

Mr. MCMANUS. Why is the index that high?

Mr. CARR. Coming in almost twice what your guidelines——

Mr. MCMANUS. Tunneling costs, high costs in relation to the benefits.

Mr. CARR. Is that an example—I have never seen this. I have heard a lot about it and maybe some day I will get to see it. Is this an example where the guideline ought to be not thrown away, but just adjusted because of a topographical problem?

Mr. MCMANUS. Well, we do that, also we are not postulating a standard. Now, when we look at this case load we are looking at it as a continuum, and we are satisfied if we can say what are the less meritorious projects and the highly meritorious projects and get a continuum, so that reasonable people can look at what this whole case load looks like, rather than to say if you have a cost-effectiveness index of $11 or $10.50 instead of $10 you are no good, you flunk, and if you are under ten, you are all right.

Mr. CARR. We appreciate that. I am not trying to be too hard on these. I am just trying to ask some questions to get a picture because we are going to be applying our own criteria. You can't put this thing on automatic pilot. You can't dump a lot of numbers in the top and have a single number coming out the bottom that tells you whether it is good or bad. You have to exercise some judgment. I am told that part of the problem in Portland has to do with a mountain or something like that.

Mr. MCMANUS. The tunneling.

BALTIMORE PROJECTS

Mr. CARR. It would seem that you could maybe take that out of the equation and then say, okay, if it weren't for the mountain would this be an acceptable range and then you say, well, the mountain is something you have to deal with because that is where it is. That is where the people live. They want to get from one side of the mountain to the other, and so maybe that is the way to look at it. I am going to look very carefully at the Portland situation. In preliminary engineering and design we have Baltimore showing up three times, Hunt Valley, Airport, and Penn Station, and they are all 11, 16, and 17.

Mr. MCMANUS. That is correct. Those are the extensions we just talked about where the cost share, if they were financed by us, as we recommend——

Mr. CARR. Is there money in ISTEA to fund these?

Mr. MCMANUS. It would be the 18 percent. They are specified in the ISTEA, I believe.

Mr. CARR. Some money to finance them?

Mr. MCMANUS. Well, the authorization focuses on them, if I am not mistaken.

Mr. CARR. Does the authorization language include money to build them all, enough money to build them all? They have authorized $60 million, but $80 million is what is called for.

Mr. McManus. I think there was a pre-ISTEA earmark for them. That gets them to the $80 million.

Mr. Carr. Earmarked by this committee?

Mr. McManus. I believe it would have been, yes.

Mr. Carr. This subcommittee.

Mr. McManus. Yes.

CHICAGO CIRCULATOR

Mr. Carr. The central circulator in Chicago comes in at $17 million. You said you were taking some—or is that the—it says Chicago Central.

We have two things going on in Chicago. We have a central circulator and we also have a Wisconsin Central commuter rail line. Which is this?

Mr. McManus. This is the circulator.

Mr. Carr. The circulator. You said you are not real high on downtown circulator types of projects. You talk about the Chicago Central circulator and tell us what you know about it.

Mr. McManus. This is a light rail downtown——

Mr. Carr. Like a trolley.

Mr. McManus. Yes. It is a surface system and here again the requested Federal share is one-third of the total cost and they have set up a benefit assessment district and produced taxes from it to put up the local share. There is a lot of hometown equity in this.

Mr. Carr. Is it fairly secure?

Mr. McManus. That part of it is. But the State share is in question or is a little tenuous. In fact, that is one of the reasons that we are recommending a mark for this project in the 3(j) report. But we want to see them work out some of those financial problems, some operating problems, and some traffic management problems with the system before we would propose going further.

Mr. Carr. When are we going to know whether the State's share is secure?

Mr. McManus. I am not sure. That is one of the reasons that we are not recommending a letter of intent for this project. We are indicating that it does have merit but not to the point where we are yet recommending commitment to out-year funding. So there is just a relatively small amount suggested for it for fiscal year 1994.

BART EXTENSION TO SAN FRANCISCO AIRPORT

Mr. Carr. Now, also under preliminary engineering, I see San Francisco Airport. That comes in at $27 per new trip. I have only seen schematics on a chart on this, and I know a little about the San Francisco Airport. Is there a reason why that would be so high?

Intuitively, it would seem to me that an airport to downtown connector would not be that high. Is there something that is driving that as a cost?

Mr. McManus. I think the airport connectors typically are high and don't rate that well unless there are other——

Mr. Carr. Why is that?

Mr. McManus. Well, it is because of the ridership and sometimes, of course, we are dependent on what the construction elements are, what the conditions are that they have to cope with. I don't know why it is $27 per added rider here, but still that has to be seen in the light of what it would cost per rider to get to the airport in another way and what the benefits would be to the community by having the infrastructure there.

AIRPORT-TO-CITY CONNECTORS

Mr. CARR. Is it fair to say that a connector to the airport would be perhaps by employees at the terminal; it may not stop where they work, though. It might be used by O&D, origination and destination, origination passengers, perhaps, some of them anyway. You can't even say that. Say locals, people from the community who might have a familiarity with the mass transit system.

But if I, for example, fly to Philadelphia, which I do actually a number of times a year, there is a rapid rail connection there. I have never used it largely because—even though I am fairly familiar with Philadelphia as a city from a road standpoint, I am not familiar with Philadelphia as a mass transit city.

Maybe my good friend from Northern Virginia might because he was born and raised around there. He might have a better sense and would be more prone to take the rail connection downtown than I would. There is a little barrier there, psychologically, right?

Mr. MCMANUS. That was the one I was thinking of that has not had good ridership experience.

Mr. CARR. How about the Cleveland experience? I took theirs once and it seemed to have a lot of riders on it.

Mr. MCMANUS. It did. That was built years ago, a long time ago, in the late 1960s, early 1970s.

SAN JOSE TASMAN CORRIDOR

Mr. CARR. The last one I want to ask you about is San Jose Tasman, at $40 per new trip. You can buy an airplane ticket between Dallas and Houston for that. That is again pretty high.

Why is that so high cost?

Mr. MCMANUS. That is low density. That is the answer. It is a relatively low number of new riders in relation to the cost.

Mr. CARR. In the 3(j) report you say the Tasman project would reduce vehicle miles in the study area by less than 1 percent.

Mr. MCMANUS. Yes, so that——

Mr. CARR. It is not environment, it is not congestion. Have you got any notion as to why this was a meritorious project then?

Mr. MCMANUS. Well, we are looking at this case load from the standpoint of where the projects are in the development stream so that they can be considered and the fact that this is linking to a system they already have in place, they are looking for half the cost. It is 50–50. That is one of the reasons, the cost share. The cost share is 50 percent.

SAN FRANCISCO REFERENDUM

Mr. CARR. Skipping back to San Francisco, they lost a referendum in November 1992. Did that impact the local funding for that, incidentally?

Sorry to skip around like this. I am reading your 3(j) report here. Proposition 156 bonding authority failed in the November 1992 referendum and no funding source has been identified for the $173 million cost of the alignment. That was the referendum.

Mr. McManus. I am advised that is a State referendum but there are also other funds they can use in lieu of those, Mr. Chairman.

Mr. Carr. Supply them for the record, if you would.

Mr. McManus. I would like to do that for this project.

[The information follows:]

The California Transportation Commission has committed to supplying the Tasman project those funds which were expected to be paid with Proposition 156 bonds.

Mr. McManus. It is at a point where they do have money that is unobligated that would take them from preliminary engineering into final design as the next step and the airport project would be going into preliminary engineering under a contract being considered right now.

SAN JOSE TASMAN CORRIDOR

Mr. Carr. Do you recommend any money for the San Jose Tasman project?

Mr. McManus. There is a mark in the report for $28 million that has to be sorted out by San Francisco MTC between the airport and Tasman. The San Francisco Airport and the Tasman project are dealt with in the earmarking in the ISTEA as one unit. The total ISTEA earmark is not sufficient to finance both of them, so there has to be a sorting out of cost share for each of these by the local area before they proceed further.

They are going through the development process to the point where they will have to come to a judgment, and that is what we want to see worked out before there is any——

Mr. Carr. Is it possible they would choose one over the other and forget the rest?

Mr. McManus. They never like to do that.

Mr. Carr. Where do they get the money?

Mr. McManus. That is where the tension is. They may have to do that, though. Precisely that.

The Tasman project is in total cost, of course, much less costly than the airport extension and could be financed within the ISTEA authorized earmark. The airport project, Federal share would be exceeded. Costs would be higher than the earmark.

BART EXTENSION TO SAN FRANCISCO AIRPORT

Mr. Carr. In other words, if they did the airport—not the Tasman—they would still be——

Mr. McManus. They would consume all the money and then some.

Mr. Carr. They would have to shop around for additional sources of funds?

Mr. McManus. Local funds, or other, yes, that is correct.

Mr. Carr. Other what funds?

Mr. McManus. Flexible funds, State funds, some other source of funds to make it happen.

Mr. Carr. You don't think they would ask our committee for it?

Mr. McManus. They could work it out at the local level; if it were flexible funds, they could do it at the local level.

MANAGEMENT TRAINING

Mr. Carr. One final question and that has to do with where FTA thinks its responsibilities are with regard to training of transit management. APTA and CTAA and other associations have some training missions as part of their association. Do you think it is in the purview of your charter to spend money for training activities for those who operate transit systems around the country, and if so, can you define that?

Mr. McManus. We have had sections in the law, Section 10 management training program authority has been in the law for many years and that question has been reviewed a number of times over the years.

Should, for example, there be a special management training resource or should local authorities be expected to use some of their operating assistance resource for training and there not be a Federal resource?

However, Section 10 has lived for a long time; it goes back into I think it was the late 1960s, and has always been modestly financed and has always been a very popular program considering the small amount of resources devoted to it. It has gone through a succession of different formulations, group training and individual fellowships—I have lost track of what their current method of management is. But we also now can use other resources besides the national R&D resource. State money can be used for management training.

NATIONAL TRANSIT INSTITUTE

Mr. Carr. But we have a National Transit Institute which is established at Rutgers University.

Mr. McManus. Yes. I will ask Mr. Schulman to speak to that and the extent to which Section 10 may be involved there. I don't know.

Mr. Schulman. Section 10 is not part of the National Transit Institute (NTI). The Section 10 program is a program managed centrally out of headquarters. It has got a separate purpose, separate charter.

Mr. Carr. Do you give grants to universities to train people or anything like that with Section 10 funds?

Mr. Schulman. No, the Section 10 program is specifically a set of grants given to transit agencies themselves that provide for managerial training. It is a very small resource.

Mr. Carr. How much money is there?

Mr. Schulman. At this particular point we have been spending I think about $400,000 to $600,000.

Mr. Carr. Four hundred thousand dollars. How much do we give the National Transit Institute?

Mr. SCHULMAN. They will receive $3 million per year for the next six years, each year, as set up in the authorization.

Mr. CARR. What is the current status, what is the current staffing budget and operational programs, and does Rutgers get an overhead charge on it? What is the status of the program?

Mr. SCHULMAN. To give you all the specific information, I will have to submit it for the record.

[The information follows:]

The National Transit Institute (NTI) is completing its first year of operation. Most of the first year involved staffing, planning and organization of the institute. ISTEA provided funding of $3 million a year for 6 years. Funds are take-downs from other elements of Section 26. $1.5 million is taken from the National program; $750 thousand from the Transit Cooperative Research Program and $750 thousand from the State Planning and Research Program. First year funds were awarded in May, 1992.

The NTI has hired a Director, an Assistant Director, an Associate Director, a Business Manager for contract purposes, two other professionals and two secretaries. Salaries and fringes in the current budget total $752,537 out of a total budget of $2,993,697. An indirect cost rate of 62.5%, excluding equipment and consultant contracts, has been negotiated by the Department of Health and Human Services on behalf of the government for all grants to Rutgers University.

The NTI creates a resource for the transit industry patterned after the National Highway Institute, which for years has provided a source of training for the Federal Highway Administration and its industry. Training will be generated from industry training needs surveys reflecting past assessments by the Department, APTA, CTAA, and from NTI's industry advisory board representing a wide range of interests including: states, MPOs, operators, vendors and manufacturers, and organized labor.

Operational programs including: Federal program responsibility training, industry generated training, and a clearinghouse of information--each serve a vital role in providing training and information to the transit industry.

In the area of Federal program responsibility training, NTI will offer courses, workshops and orientation seminars free of charge to the industry. This training directly reflects changes in legislation, regulations, and other Federal requirements. Currently, courses are under development in eight activity areas including ISTEA, ADA and the Clean Air Act Amendments. Emphasis in this area will include any requirements which are generated by the government and to which the industry needs to comply or learn how to adapt.

Industry generated training will meet the needs conveyed by the industry itself in response to new and changing technology, as well as changing demographics, managing styles and methods. A series of "new technology" workshops are currently being developed with the first offering on the subject of alternative fuels.

As a clearinghouse and referral service on behalf of the transit industry, NTI will serve as a central point of contact for the industry in terms of documents, training schedules and various types of technical support. Training materials developed by both the industry and by the FTA are currently being distributed along with a quarterly newsletter and a monthly training calendar.

Mr. SCHULMAN. The institute is now partially staffed. They did hire a director that will specifically manage the institute on behalf of Rutgers and ourselves. There is a small nucleus of staff.

The university is also donating services. The facilities that the institute is housed in were donated by the university, the physical building. NTI didn't have to get involved in any of that kind of expense.

I think we have to step back for a second. You asked a more general question of what is the role of FTA or the Federal Government in training.

Training is certainly a very important aspect of the operation of a transit property. Historically the training for the transit industry is based on experience and on-the-job training. NTI really provides a different kind of experience which probably becomes more and more necessary as we get into more sophisticated technologies. Mr. McManus did talk about technology introduction in transit equipment becoming far more complex to operate and to maintain than it was in the past.

NTI is starting their program. There are a number of courses. The structure of the institute and the type of training that they provide reflect the needs of the transit agencies themselves. An advisory committee was set up, 22-person advisory committee. They have done inventories of existing training. You mentioned training in existence already. The gaps that have been identified are training that is currently not adequately provided for in terms of first-line supervisory training and middle management training.

On the other side, there are programs that are being offered that are more at our request, things we feel are appropriate from the national perspective, things again concerning technology questions, implementation of ISTEA, procurement, some systems planning. Based on some of the conversations that have taken place earlier, certainly forecasting could be one of the targets that could be built into the fabric of the courses that are being offered.

At this time I think the best way to state it, they are in start-up. They are beginning to sponsor programs on their own. The first course which they will offer will be in Austin in conjunction with CTAA, the Community Transit Association of America, that represents rural and special transit interests.

They will be be offering a program on the issue of technology. There are programs under development in the automatic vehicle location (AVL) area.

So at this particular point NTI is in start-up. While it was not something that we had requested when we put our own legislative package forward, we think it certainly responds to a gap in the industry. It is funded as a take down of the entire research program, the whole planning and resource research program, the resource set up under section 26. Funds are taken down as a fixed amount from the National Program, the Transit Cooperative Research Program, and from the State Planning and Research Program. So it is funded as a takedown of a resource that is made available for the full area of research and planning.

Mr. CARR. Well, thank you very much.

Mr. Wolf, do you have a question?

PROJECT EARMARKS

Mr. **Wolf**. Just a couple. Senator Lautenberg would be proud of the defense you gave to them. I am sure he will read the transcript today and be very proud.

I have a number of questions, but let me make a comment and I won't ask them because I have a 2 o'clock appointment that I am missing and a 2:30 I have to get to and I want to hear Metro make the case for Metro.

Do you ever go home at night and say, "Boy, these seven projects are just horrible, I just think the Congress made a terrible mistake and they just shouldn't be there"? That is a yes or no.

Mr. **McManus**. These seven projects?

Mr. **Wolf**. Not the seven, but the projects that are put in.

The reason I ask you, and I do want you to answer that for the record. I want you to answer publicly here, I mean. The American taxpayers under so much pressure. The American family is being squeezed so much. Some single parents can barely make it, can't find a day care center for their kids. Moms and dads working two jobs, don't have enough time to spend time with their families.

We are talking about raising taxes on the middle class and squeezing Americans again. Every indicator you look at for the well-being of the American family has gone the wrong way, from child abuse to spouse abuse to teen-age suicides. Psychologists are saying it is important for parents to be with their kids, yet we are driving people out.

Some of the projects the Chairman was talking about, you wonder how necessary they are. I wonder from your perspective, what about the ISTEA. Do you think all those projects were meritorious?

Mr. **McManus**. No. It depends on how it is looked at. If it is looked at as an array of projects that was meant to be put on the board for analysis, that is one thing. But when the projects were specified by earmarks by specific year with deadlines to do thus and such, no, we didn't like that a bit.

We want an open process where grantees go through an understood development process, where there has to be communication between the Executive Branch and the Congress in some atmosphere of comity, and where we share information, and then the whole political process works better.

There is also a lot more flexibility and you can weigh all values in the scale. But when you are boxed in by earmarks and unreasonable requirements that are known to be unreasonable, then you have to go back with face-saving communications to inform all the players of what you are actually doing and why, and it is a very energy-draining experience. But that is what public administration is all about.

So I am answering, yes, we do go home wagging our heads but I am sure you must do the same about some of the things that we do.

Mr. **Carr**. Never.

ISTEA SHORTFALL TO COMPLETE PROJECTS

Mr. WOLF. Approximately how much of a shortfall do you think there is in ISTEA for the projects that are put in there if they were all carried to completion?

Mr. MCMANUS. There is a $1 billion shortfall.

Mr. WOLF. One billion.

Mr. MCMANUS. At least that. That is why we are agonizing. There has to be a selection-out process unless other money is rung in from flexible funds or local funds or some other way to do it.

Mr. WOLF. Have you ever deauthorized—come up with a recommendation for that?

Mr. MCMANUS. We have proposed rescissions, yes, but not deauthorizing. And reprogrammings, but not deauthorizing.

Mr. WOLF. Thank you.

Mr. MCMANUS. I see the pattern. Authorizations in the authorization legislation will be superseded by actions in the appropriations process.

Mr. WOLF. Sometimes the Members have left the Congress, number one, so the project no longer has so high a profile.

Maybe there is a process that you as an administrator, or as the political appointee who comes in, gives a speech about these things and lays it out. Because I believe that most of the localities, their project having made it into ISTEA, now believe that that project will be on the books and will be finished sometime.

My guess is the way we have done things in the past, if that were true, most things eventually will.

Mr. MCMANUS. You are dead right about what they expect.

Mr. WOLF. I think it is important for somebody—that is why I am pleased the Chairman has done this—not you, but a political appointee and the Secretary to say: We don't feel this is going to be the case, and we want localities and Members to know these are some of the problems. Otherwise, they will just come in and keep asking and pushing, and Members of Congress will be faced with telling mayors, no, and telling State legislators, no.

So sometimes they will push, send letters, appear before this committee and sometimes they get funding. So somebody downtown has to speak out on this issue, too.

Thank you.

Where is your new administrator? When do you expect to have a new administrator?

Mr. MCMANUS. I wish I knew. He didn't show up before the hearing.

Mr. WOLF. There isn't anybody working in the building then?

Mr. MCMANUS. No, there is not.

Mr. WOLF. Thank you, Mr. Chairman.

Mr. CARR. Thank you very much.

BALTIMORE'S CENTRAL LIGHT RAIL LINE

Another case in point demonstrating the weaknesses in early ridership projections is Baltimore's Central Light Rail Line, which opened for service about a year ago. According to press reports, only 8,200 passengers are riding the system daily, compared to estimates of 33,000. Although a majority of the system has been paid for by the state of Maryland, Federal taxpayers are expected to "invest" $77 million in three extensions to the main line. Do you have any idea why the estimates for the Baltimore project are so far short of the projections?

[The information follows:]

The State of Maryland segmented the planned light rail system into a main line, fully funded by the state and its local partners, and the extensions proposed for FTA assistance, in order to avoid the requirements that would accompany FTA involvement in the main line. These requirements include the preparation of an Environmental Impact Statement (EIS) and review of the ridership forecasts presented in that EIS. Consequently, FTA has not investigated the technical methods and assumptions underlying the ridership forecast for the main line. FTA believes that the ridership forecasts for the three extensions for which Federal funding is proposed are more realistic, and the questionable cost-effectiveness of these extensions reflects this realism.

Mr. CARR. Costs rose dramatically on the main line of the Baltimore project. Does FTA have full funding agreements for the three extension projects to limit the exposure of the federal government?

[The information follows:]

Sections 3011 and 3035(nn) of ISTEA require FTA to fund the three Baltimore light rail extensions through a full funding agreement. FTA does not yet have a full funding agreement for the three Baltimore extensions because the environmental work on the extensions, a prerequisite to a full funding agreement, is not quite complete. As the three environmental documents are completed in the next few months, FTA will consider several other factors in deciding the appropriate commitment mechanism. The three projects are functionally independent and, individually, are relatively small, requiring Federal shares of roughly $38 million, $28 million, and $14 million. Full funding agreements are normally recommended when the Federal exposure is much greater, on the order of $100 million or more. On the other hand, if FTA is asked to consider the projects together as a package, their total cost does exceed $100 million. In addition, the three projects, taken together, are a prime candidate for the turnkey demonstration program established by Section 3019 of ISTEA. If the projects are selected as a turnkey demonstration, FTA will be expected to commit funds earlier than usual in the design phase, when costs are less certain but the turnkey contractor still has the flexibility to reduce costs through creative design. In light of these factors, FTA will require a commitment mechanism that protects the Federal investment without placing undue constraints on the implementing agencies.

CENTRALIZED BUS PROCUREMENT

Mr. CARR. What is your estimate of the number of different types of bus configurations that would be needed to satisfy the different needs and conditions across the country?

[The information follows:]

There would be over one hundred different types of bus configurations that would be needed to satisfy the needs and conditions across the country. Major reasons for the high number of bus configurations are the introduction of new bus configurations resulting from the requirements of the Americans with Disabilities Act (ADA), the Clean Air Act, and site specific requirements. More accessible bus designs are being introduced such as low-floor, new wheelchair lift designs and changes to the bus interior. To meet Clean Air requirements transit agencies are purchasing buses using alternative fuels such as compressed natural gas, liquefied natural gas, methanol, ethanol and improved diesel engines with particulate traps. California and Texas require state transit agencies to procure alternative fueled transit buses. The use of these fuels requires significant changes to the bus to accommodate the fueling system. Site specific requirements include temperature, hilly terrain or flat terrain, and city, suburban or commuter service that affect engine, axles, transmission and air conditioning options. The number of configurations would decrease when the industry determines the preferred alternative fuels and ADA designs.

Mr. CARR. Do you have any idea how many different bus configurations are currently being purchased with each city doing its own buying?

[The information follows:]

Because of the large number of options, the bus configurations available are in the thousands. One manufacturer offers 128 different body combinations, nine engine choices, 130 window configurations, and several door/control options. Due to the options available, every bus order has been different.

Mr. CARR. How many people does the FTA currently have devoted to reviewing bus applications? How many do you think would be required for the centralized procurement approach?

[The information follows:]

There are currently 44 FTA employees in FTA's ten regional offices and headquarters that are responsible for performing the basic substantive review of all the capital and operating assistance grant applications for their particular cities or geographic areas. They are therefore responsible for reviewing a number of other types of grant applications and have other duties, as well. I would estimate that they spend only 20 percent–30 percent of their time processing bus capital applications.

It is difficult to determine how many employees would be required for a centralized procurement approach, since that would depend, in large part, on how the process was structured; however, there would probably remain a requirement for regional review of applications for those buses, regardless of the manner in which they were procured, to assure that all Federal requirements had been met by the grantees. There would also be a requirement in FTA headquarters to perform additional centralized procurement processing and approval functions.

Mr. CARR. Have you discussed a centralized bus buy with the manufacturers? Wouldn't their costs be reduced also by having to deal with only one customer instead of hundreds each year?

[The information follows:]

This issue has arisen in informal discussions at the staff level, but we have not conducted a comprehensive assessment of the benefits and drawbacks of such an approach. Issues that would need to be addressed include: who is responsible for equipment failures since FTA specified and purchased the buses; bus types and options to be purchased; and methods for allocating buses to transit agencies. Although, the manufacturers will be dealing with only one customer, FTA would now be responsible for "contracting" and resolving procurement issues with hundreds of transit agencies for both bus and spare parts procurements. We will explore this approach with the bus manufacturers and the industry in the coming months.

Mr. CARR. How do other countries manage their bus purchases? Do you know if any other countries operate a centralized bus procurement system and what their experience with it has been?

[The information follows:]

Canada and most European countries do not operate a centralized bus procurement system. Communist countries operate centralized bus procurement systems, but we do not know what their experience has been.

Mr. CARR. Both the GAO and DOT's own Inspector General have reported that FTA has allowed more buses and bus parts to be procured by transit authorities than permitted under FTA guidelines. Couldn't a more centralized approach eliminate some of these problems?

[The information follows:]

Each application for Federal funds for bus purchases is reviewed for conformance with FTA guidelines. A centralized procurement by FTA would not result in any additional Federal control over the number of buses received by the transit authorities.

Currently other means exist to "enforce" the FTA guidelines. FTA is using Section 15 data to identified grantees with excessive spares ratios and we have asked them to take measures to come into compliance with the 20 percent spare ratio guideline. In addition, FTA has triennial review procedures to identify grantees that have excessive spares ratios.

COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT

Mr. CARR. Earlier estimates have placed the cost for transit systems to comply with the Americans with Disabilities Act (ADA) as high as $900 million. do you have a more recent estimate?

[The information follows:]

Unfortunately, we do not have a more recent estimate. As noted earlier, we are still working on nailing down the actual costs of the ADA as reported by our grantees.

Over the next few years, FTA's composite estimate of the cost of compliance with the ADA is about $945 million each year, the figure you referenced. This is comprised of the annual costs associated with the three major cost elements of the ADA in public transportation. These three elements are (1) the provision of ADA paratransit service, (2) making key rail stations accessible, and (3) purchasing accessible buses and railcars. The composition of our $945 million annual funding requirement is as follows: $700 million a year for ADA paratransit service; $50 million each year for lifts on transit buses; $15 million to make railcars accessible; and $180 million capital investment each year over the next 5 years to make key rail stations accessible.

The cost estimates for implementing the ADA in public transportation that have been referenced in the testimony before this Committee are national estimates based primarily on the research we did to prepare the Regulatory Impact Analysis that accompanied the final rule implementing the transportation provisions of the ADA, in November, 1991. The FTA is working on updating these macro-estimates, given our experience with ADA implementation over the last two years.

Further, we are still in the process of working with our grantees on clarifying their individual cost estimates contained in their ADA paratransit and key rail station plan submissions. We are accumulating these cost estimates submitted by the 660 fixed route operators across the nation.

Mr. CARR. Has the FTA performed its own analysis of the compliance cost?

[The information follows:]

Yes. The FTA prepared national cost estimates in 1991 based on the research we did in support of the Regulatory Impact Analysis that accompanied the final rule. Today, we are actively engaged in the process of evaluating and aggregating the cost estimates submitted to the FTA in the individual plans. These cost estimates were contained in the 543 ADA complementary paratransit plans and in the 36 plans to make 693 key rail stations accessible. Some of these plans have thoughtful, well developed cost estimates, others do not. We have a preliminary estimate for the total cost of all fixed capital investment in key station modifications, $900 million. We intend to continue to work on refining and clarifying these paratransit and key station cost estimates and hope to have more complete information in the fall.

Compliance cost estimates for the 543 paratransit plans were submitted to the FTA or to the State DOT's, in a standardized format, at the end of January, 1993. Detailed reviews of the cost estimates in the 373 plans sent directly to the FTA were performed in March and April. In most cases, we have sent out detailed comments, requesting refinements, clarifications, and revisions to the cost projections and other information submitted to us. Just recently, we began receiving responses to our requests for revisions. The 170 State-administered plans, first reviewed by the State DOT's, arrived at the FTA in April and are still being reviewed in our Regional Offices.

As for the key rail stations, plans to renovate key rail stations to make them accessible were submitted at the end of July, 1992. The FTA is still working with the 36 rail properties that submitted 693 key rail station plans to nail down the cost of compliance with the ADA. However, when the rail cost estimates are aggregated, station by station, it appears that the cost to make these key stations accessible will require a total capital investment of roughly $900 million. The $900 million for station modifications is a one-time capital investment cost, not a recurring cost. Since almost all of this work must be performed over the next 5 years, this amounts to an additional, unfunded $180 million annual capital investment requirement for transit just to make key rail stations accessible. Adding the $15 million per year capital cost to make railcars accessible brings ADA mandated rail capital costs to about $200 million per year, over the next five years.

Mr. CARR. Is there any breakdown of the total costs of compliance? For example, how much is for buses, how much is for subways, how much is for paratransit, how much is for capital, how much is for operations, etc.?

[The information follows:]

The breakout of the annual costs of compliance with the transportation provisions of the ADA in public transit arise from three major areas: (1) the purchase of accessible fixed-route transit buses; (2) the provision of the complementary ADA paratransit service; and (3) the purchase of accessible railcars and the remodeling of key rail stations to make them accessible. There are other minor costs such as driver training and lift maintenance, which we have not included.

ADA COST SUMMARY TABLE

[In millions of 1992 dollars]

	Capital annual costs	Operating annual investment
1. Bus Accessibility Costs: Lifts on fixed-route buses	[1] $50	
2. Paratransit Service Costs: Full implementation (1997) and thereafter	[1] [2] 100	[1] [2] $600
3. Railcar Accessibility and Key Rail Station Costs:		
Railcars	[1] 15	
Capital investment (primarily over the next 5 years)	[3] 180	
Total Capital and Operating Costs	345	600
Total Annual Compliance Costs	$945	

[1] Using updated Regulatory Impact Analysis estimates.

[2] Total FY 1993 ADA paratransit capital and operating costs are estimated to be $300 million.

[3] This annual figure represents a total investment of $900 million. This figure is based on costs submitted by the grantees in their Key Station Plans.

The annual $50 million capital cost purchases lifts for fixed-route buses to make them accessible. In addition, the $700 million annual cost, at full implementation in 1997 and beyond, provides ADA paratransit service. This $700 million per year for ADA paratransit service is estimated to be comprised of $100 million of capital per year to purchases new vans and small buses, and $600 million per year, or about 85 percent, for paratransit operating costs. Currently, paratransit service is being phased in during the 5-year period, 1992 to 1996.

The one-time fixed capital investment to make structural changes to key rail stations to make them accessible is $900 million. This $900 million total is based on the aggregation of the cost estimates in the plans submitted by our rail system operators. Given that most of the planned fixed investment in station structural changes will be made during the next 5 years, the annualized capital costs for rail station accessibility is about $180 million each year. In addition, annual capital cost to purchase accessible railcars is $15 million.

From the table above, total annual ADA compliance costs are almost $1 billion annually.

PLATFORM EDGE DETECTION SYSTEM

Mr. CARR. Are you familiar with the truncated domes platform edge detection system in place for certain subway systems and proposed for others? According to Washington Metropolitan Area Transit Authority officials, the capital impact on Metro if they have to install such a system is $30–$40 million. They maintain, however, that San Francisco's BART system, which has the truncated domes, experiences three times the number of injuries that Metro does with its system. Does the FTA have a position on truncated domes?

[The information follows:]

The FTA position on truncated domes is dictated by the provisions of the Americans with Disabilities Act of 1990 (ADA). The ADA required that the Secretary of Transportation issue implementing regulations containing standards consistent with the minimum guidelines and requirements issued by the Architectural and Transportation Barriers Compliance Board. Those guidelines, the Americans with Disabilities Act Accessibility Guidelines (ADAAG), were incorporated as an appendix in the Department's final rule "Transportation for individuals with Disabilities" and require that platform edges on all key stations and new construction bordering a drop-off and not protected by platform screens or guard rails have a detectable warning. Standards for the detectable warning surface are provided by ADAAG stipulating raised truncated domes of specific dimensions in a specified pattern.

With respect to the number of injuries experienced by transit entities, system safety is the result of many factors and the edge treatment is but one of several contributory elements. Furthermore, the data referred to by the Washington Metropolitan Area Transit Authority officials indicates that while BART's accident history shows a decreasing trend, WMATA is experiencing an increasing trend in accidents involving falling into the trackway. According to the Volpe National Transportation System Center, the data referred to is insufficient to make meaningful safety comparisons between the two systems.

Mr. CARR. Does FTA care how an authority complies with ADA as long as it does comply? Wouldn't significantly fewer injuries be one fairly good indication of the efficacy of a system?

[The information follows:]

The provisions of the Americans with Disabilities Act of 1990 (ADA) and the ADA Accessibility Guidelines (ADAAG) greatly limit the FTA in dealing with the issue of compliance. However, if a transit authority were able to provide documentation in support of a safer, or more efficacious standard, FTA is certain that the Architectural and Transportation Barriers Compliance Board would take it under advisement and, if warranted, revise the ADAAG.

ADA IMPACT ON OPERATING COSTS

Mr. CARR. Have many transit authorities complained to the FTA about the impact ADA is having on their operating costs?

[The information follows:]

In this period of constrained local budgets, quite understandably, many transit authorities have grumbled about the imposition of expensive Federal paratransit requirements, without any additional Federal financial support. However, in their paratransit plan submissions, the transit authorities remain hopeful that additional local funding sources will materialize to achieve full compliance with the ADA on schedule. Unlike the history of the 504 regulation, the transit industry broadly supports the basic thrust of the ADA in making fixed route systems accessible. However, the industry is not sure that it can find additional State or local funding sources to defray the costs of providing this required paratransit service.

Mr. CARR. Do you know what the average impact of ADA compliance is on an authority's operating costs?

[The information follows:]

The FTA asked for this information, but we do not have it all accumulated for the nation at this time.

In our letter to the transit authorities outlining the requirements for the 1993 ADA paratransit plan update submissions to the FTA, we requested that capital and operating cost estimates be reported in a standardized format. We also requested projections of the total capital and operating costs of the entire transit system, the total of all paratransit, fixed-route bus, and rail costs. We asked for this data in an attempt to quantify ADA paratransit costs in relation to other paratransit costs and the total combined costs of the entire system. However, much of these data were incomplete as submitted and needed clarification.

At first glance, from the New England, Mid-Atlantic and Pacific Northwest data we have tabulated, the incidence of ADA paratransit capital and operating costs as a percentage of total system capital and operating costs appears to be regressive. That is, the burden of ADA paratransit capital and operating costs, as a percentage of total (capital and operating) costs, appears to fall disproportionately on the budgets of the smallest systems. It appears that ADA paratransit capital and operating costs range from 2 to 6 percent of total costs at the largest systems with populations in excess of one million persons. For the smallest systems, in areas with populations of under 50,000 persons (our Section 18 program), ADA paratransit operating and capital costs appear to range from 10 to 20 percent of total costs. Paratransit service, rather than the fixed route, usually comprises a greater share of total costs at these smallest systems. These would be major costs increases for smaller transit systems to attempt to absorb. However, because there may be some problems in estimating or reporting these costs, it is too early to draw these conclusions for the nation as a whole.

Mr. CARR. Do you think there is reason for concern here? By law, authorities must comply with the provisions of the ADA, regardless of cost. Is there danger that if operating subsidies remain constant, paying for compliance with the ADA may force some authorities to lay off workers or take other undesirable actions to reduce costs?

[The information follows:]

It is clear that insufficient funding, primarily operating assistance, may jeopardize the successful implementation of complementary ADA paratransit service. The estimated annual operating cost is approximately $600 million. To avoid noncompliance problems with the ADA, many transit systems indicated in their plan submissions that they are planning to eliminate other discretionary paratransit service (primarily to the elderly), and may have to cut fixed route service in some cases. These service reductions could result in layoffs.

The required ADA paratransit service, for those who cannot ride the mainline fixed-route bus or rail system, is extremely expensive service. For example, fully allocated costs often total about $15 per trip. A $1 regular, fixed-route bus trip for a paying passenger usually costs the transit authority an additional $2 in subsidy. A comparable ADA paratransit trip picks the individual up at his home and usually costs the passenger $2. Thus, the transit authority must subsidize the remaining $13 in costs. About 85 percent of these costs are operating costs. An individual who averages only 6 to 7 of these paratransit trips per month costs the transit authority almost $1,000 per year.

The increase of over $730 million in capital formula funding in our FY 1994 budget would defray the capital costs of normal routine bus needs and capital cost associated with the ADA. As more Federal funds are available for routine bus capital expenditure, State and local officials will have more resources to fund the operating costs of ADA.

PUBLIC TRANSPORTATION MANAGEMENT SYSTEMS

Mr. CARR. ISTEA requires that metropolitan planning organizations and states engage in new planning and programming processes, and that each state implement a public transportation management system (PTMS). States must begin implementing their PTMSs by January 1, 1995, and states and MPOs must begin using the new planning and programming processes by October 1, 1993.

How does the FTA's fiscal year 1994 budget estimate reflect the costs to the states and the MPOs of implementing these new requirements?

[The information follows:]

Our FY 1994 budget request for MPOs includes a $21 million (55 percent) increase (to be drawn from the formula grants program) over the FY 1993 enacted level of $38 million to support the expanded responsibilities of the MPOs in implementing these new planning requirements. When added to the FY 1994 request of $38 million for MPOs from the Transit Planning and Research Program, the combined funding of $59 million for MPO planning activities is equal to the ISTEA statutory level allowed for MPO planning. These funds are required to provide the necessary funding to enable MPOs to fully comply with the new planning requirements of ISTEA. We also have requested $7,750,000 to be distributed by formula to the states for State Planning and Research activities which is adequate to support state planning activities in this effort.

Mr. CARR. How will the FTA ensure that states are in compliance with the planning and PTMS regulations, and how are the FTA's oversight efforts reflected in the 1994 budget?

[The information follows:]

The ISTEA planning requirements call for a Federal certification, no less often than every three years in transportation management areas (TMAs), that the MPO is carrying out its responsibilities under applicable provisions of Federal law. We plan to review the transportation planning process in each TMA to ensure that all applicable requirements, including PTMS, are being met.

While no similar Federal certification requirements are applicable to the statewide planning process, we will require that each state self-certify that the transportation planning process is being carried out in accordance with all applicable requirements of ISTEA. FTA and FHWA will review, as necessary, each state's self-certification before formally approving the Statewide Transportation Improvement Program (STIP) which permits the flow of federal capital funding to the State and urbanized areas.

The Notice of Proposed Rulemaking (NPRM) on the Management Systems requires annual certifications by the states that they are implementing the management systems in accordance with all applicable requirements. FTA will review, as necessary, each state's certification.

Lastly, state management reviews are included in oversight contracts to be awarded this summer. The reviews will include planning and PTMS policies and procedures. These contracts will be funded under Section 23(h).

ADMINISTRATIVE EXPENSES

Mr. CARR. The 1994 budget indicates so-called mandatory adjustments and price increase of $856,000 above the comparable level for 1993. The major items are $677,000 for within grade increases and $266,000 for the annualization of the fiscal year 1993 pay increase. In addition, $72,000 is budgeted for projected inflation. These amounts are offset partially by a reduction of $241,000 for a three percent administrative cost savings.

In fiscal year 1993, administrative expenses were $38,550,000. Three percent of that amount is $1,156,500. Instead of reducing this activity by that much, it seems that FTA took a reduction of, at most, $241,000, although that figure appears to be offset by inflation increases of $72,000. Exactly what was the base used to compute the "administrative expenses" reduction and why wasn't the entire activity used to compute the reduction?

[The information follows:]

Executive Order 12837, dated February 10, 1993, which is part of the Administration's overall budget plan, instructed agencies to take a 3 percent reduction in administrative expenses from the amount made available for fiscal year 1993, adjusted for inflation in the following categories: travel, transportation of things, moving expenses for people, communications expenses, consulting and other contracting costs, printing, supplies and materials.

JUSTIFICATIONS—INTERSTATE TRANSFER GRANTS

Mr. CARR. Provide a breakdown of the requested funding for interstate transfer grants for fiscal year 1994 by withdrawal area.

[The information follows:]

INTERSTATE SUBSTITUTE TRANSIT GRANTS

STATE	WITHDRAWAL AREA	PROPOSED FY 1994 FORMULA APPORTIONMENT
ARIZONA	TUCSON	$0
CALIFORNIA	SACRAMENTO	$46,118
	SAN FRANCISCO	$1,338,325
COLORADO	DENVER	$0
CONNECTICUT	BOLTON TO KILLINGLY	$161,190
	HARTFORD-NEW BRITAIN	$484,018
GEORGIA	ATLANTA	$0
ILLINOIS	CHICAGO	$999,378
INDIANA	INDIANAPOLIS	$0
IOWA	WATERLOO	$72,088
MARYLAND	BALTIMORE	$10,476,006
	BOWIE TO MILLERSVILLE	$0
	WASHINGTON, DC	$48,805
MASSACHUSETTS	BOSTON	$609,388
	FALL RIVER-PROVIDENCE	$0
MINNESOTA	DULUTH	$0
	MINNEAPOLIS-ST. PAUL	$0
NEBRASKA	OMAHA	$0
NEW JERSEY	NEW YORK, NJ	$53,730
	PHILADELPHIA	$0
NEW YORK	ALBANY	$18,806
	NEW YORK, NY	$23,938,953
OHIO	CLEVELAND	$1,640,108
OREGON	PORTLAND	$3,042,461
	SALEM	$0
PENNSYLVANIA	PHILADELPHIA	$0
	PITTSBURGH	$0
RHODE ISLAND	PROVIDENCE	$1,301,162
TENNESSEE	MEMPHIS	$544,464
VIRGINIA	WASHINGTON	$0
SUBTOTAL		$44,775,000
SECTION 23 TAKEDOWN		$225,000
TOTAL		$45,000,000

DISCRETIONARY GRANTS

Mr. CARR. The budget includes a total of $1,771,575,000 for discretionary grants. However, instead of matching the statutory requirement of 40 percent, 40 percent, and 20 percent for fixed guideway modernization, fixed guideway new construction, and bus/bus related facilities, respectively, there is a small change proposed in the percentages. Please explain the reasons for the proposed change. Is this planned to be a change only for one year, or is it likely to continue in the future?

[The information follows:]

The slight reduction in the New Start category, from 40 percent to 37.1 percent, with a corresponding increase in the Fixed Guideway Modernization category, is intended to provide more resource to maintain and improve existing rail infrastructure in the nation's older rail cities, thus accelerating the elimination of the rail modernization backlog. This additional funding will also help cover the ADA requirement for key station accessibility. The estimated need for New Start funding in FY 1994, to accommodate those projects under full funding grant agreements and other meritorious projects, as compared to the need and obligation rates in the fixed guideway modernization program, suggests that additional funds could be put to more timely use in the rail program.

UNOBLIGATED BALANCES

Mr. CARR. The justification material for discretionary grants indicates "funds should not be provided ahead of the time at which they are actually needed." Please provide a listing, by project, of all unobligated funds in the discretionary grants activity. Indicate the year the funding was provided, along with reasons why the funds provided before fiscal year 1993 are still unobligated.

[The information follows:]

STATUS OF SECTION 3 FIXED GUIDEWAY UNOBLIGATED APPORTIONMENTS

STATE	CITY	PROJECT	YEAR OF APPORTIONMENT	UNOBLIGATED APPORTIONMENT	REASON NOT OBLIGATED
CA	Los Angeles	Funds Not Allocated Yet	93 Apport. 92 Apport.	$4,826,115 1,243,860	No application
CA	San Diego	Rail Improvements	93 Apport.	2,720,190	Needs 13(c)
CA	San Francisco	MUNI TURNBACK	91 Earmark	31,000,000	FFGA under negotiation
CA	San Francisco	MUNI TURNBACK	93 Apport.	43,198,132	FFGA under negotiation
CA	San Francisco	Purchase of Cahill Station	91 Alloc.	3,114,375	Needs 13(c)
CA	San Francisco	Maintenance Facility	91 Alloc.	3,385,623	Needs 13(c)
CA	San Jose	Central Maintenance Facility	93 Appor. 92 Apport.	2,940,529 5,614,375	Needs 13(c)
CT	Connecticut	Rail Installation/track improvements	93 Appor.	13,362,231	No application
DC	Washington	ROHR Car Rehab. Project	93 Apport.	14,110,775	Needs 13(c)
DE	Wilmington	Signal & Interlocking	92 Apport.	149,658	No application
DE	Wilmington	Signal & Interlocking	93 Apport.	375,349	No application
FL	Miami	Central control computer/communic. lines	92 Apport.	1,377,969	Needs 13(c)
FL	Miami	Rail Station renov./fare collection equip.	93 Apport.	3,338,660	Needs 13(c)

STATUS OF SECTION 3 FIXED GUIDEWAY UNOBLIGATED APPORTIONMENTS

STATE	CITY	PROJECT	YEAR OF APPORTIONMENT	UNOBLIGATED APPORTIONMENT	REASON NOT OBLIGATED
GA	Atlanta	Rail Car Renovation	93 Apport.	5,955,027	Needs 13(c)
IN	NorthWestern		93 Apport.	6,031,882	Needs 13(c)
LA	New Orleans	Cost Overruns	93 Apport. 92 Apport.	1,999,254 1,770,330	No application
MA	Boston	Old Colony Line	92 Apport.	40,236,657	Needs 13(c)
MA	Boston	Old Colony Line	93 Apport.	47,581,448	Needs 13(c)
MA	Lawrence-Haverhill		93 Apport.	583,626	No application
MD	Maryland	MARC station building	91 Alloc.	1,125,000	Application in final review
MO	St. Louis	Intermodal Transfer Facility	92 Alloc.	660,000	Needs 13(c)/Combined funds from FTA/FAA & FRA
NJ	NJTransit	Rail Improvements	93 Apport. 92 Apport.	12,310,464 162,547	No application
NJ	Southern NJ/Phil.	Reverse Signals	93 Apport.	6,000,000	Needs Decision on Section 3 FGM Split
NY	Buffalo		93 Apport.	480,153	No application
OH	Dayton	Purchase Electric Trolley Vehicles	93 Apport. 92 Apport.	1,296,381 646,111	Needs 13(c)

STATUS OF SECTION 3 FIXED GUIDEWAY UNOBLIGATED APPORTIONMENTS

STATE	CITY	PROJECT	YEAR OF APPORTIONMENT	UNOBLIGATED APPORTIONMENT	REASON NOT OBLIGATED
OR	Portland	Banfield System Improvements	93 Apport.	1,043,553	Application under review
PA	Philadelphia	Improvements to North Phila. Amtrak	88 Earmark	949,998	Needs AMTRAK Agreement
PA	Philadelphia	Standard Priority Bridges	93 Apport. 92 Apport.	149,658 7,497,662	Needs Decision on Section 3 FGM Split
PA	Philadelphia	Renov. North Phila. regional rail stat.	91 Earmark	2,500,000	No application, needs AMTRAK agreement
PA	Philadelphia	ADA Accessibility	93 Apport.	4,000,000	Needs Decision on Section 3 FGM Split/Needs 13(c)
PA	Philadelphia	Utility Fleet Renewal	93 Apport.	3,200,000	Needs Decision on Section 3 FGM Split/Needs 13(c)
PA	Philadelphia/Southern New Jersey	Frankford El Conversion	93 Apport.	40,000,000	Needs Decision on Section 3 FGM Split
PA	Philadelphia/Southern New Jersey	ECB Modernization	93 Apport.	4,000,000	Needs Decision on Section 3 FGM Split
PA	Philadelphia/Southern New Jersey	Media Line Rail Systems	93 Apport.	3,500,000	Needs Decision on Section 3 FGM Split
PA	Philadelphia/Southern New Jersey	Engineering Program	93 Apport.	8,720,192	Needs Decision on Section 3 FGM Split
PA	Pittsburgh	Light Rail Vehicles/infrastructure improv.	93 Apport.	14,845,574	Needs 13(c)

STATUS OF SECTION 3 FIXED GUIDEWAY UNOBLIGATED APPORTIONMENTS

STATE	CITY	PROJECT	YEAR OF APPORTIONMENT	UNOBLIGATED APPORTIONMENT	REASON NOT OBLIGATED
RI	Providence	Project Not Defined	93 Apport.	1,108,263	No application
			92 Apport.	432,852	
TN	Chattanooga	Project Not Defined	93 Apport.	37,127	No application
			92 Apport.	14,669	
TX	El Paso	StreetCar Project	91 Earmark	2,800,000	No application, not priority for City
WA	Seattle	Construct passenger ferry terminal	93 Apport.	1,000,000	Needs 13(c)
WA	Seattle	Extend Catenary for Trolley	93 Apport.	5,128,151	No application
			92 Apport.	10	
WA	Tacoma	Rail Improvements	93 Earmark	244,361	No application
			Total	$358,768,791	

STATUS OF SECTION 3 BUS UNOBLIGATED EARMARKS/ALLOCATIONS

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STATE	CITY	PROJECT	YEAR OF EARM./ALLC.	UNOBLIGATED EARM./ALLC.	REASON NOT OBLIGATED
AR	Eureka Springs	Electric bus	92 Earmark	$63,600	Requesting change to CNG train
AZ	Tucson	Dial-A-Ride project	92 Earmark	8,000,000	Still in development/definition phase
CA	Los Angeles	Union Station Gateway Intermodal Terminal	93 Earmark	12,203,694	Needs 13(c)
CA	Los Angeles	Foothills Park-N-Ride	89 Allocation	1,499,800	Envir. assessment underway/site dispute
CA	Sacramento	Purchase AFI buses	89 Allocation	1,061,175	Civil rights review needed
CA	Sacramento	Commuter serv. employment center	92 Allocation	138,778	Needs 13(c)
CA	Sacramento	Initial increment trolley coach lines	93 Earmark	6,700,067	Needs 13(c)
CA	San Francisco	Parking Facility Calif. Pacific Medical Center	92 Earmark	2,500,000	Inconsistent with local planning
CA	San Francisco	Trolley buses	93 Earmark	14,357,287	Needs 13(c)
CO	Eagle County	Purchase buses	93 Earmark	1,148,583	No application
FL	Key West	Park-N-Ride Facility	93 Earmark	1,856,876	Environmental assessment not complete
FL	Miami	Articulated Buses	93 Earmark	11,644,433	Needs 13(c)
FL	Miami	Intermodal Transportation Center	93 Earmark	3,000,000	Needs 13(c)/environmental issues
GA	Atlanta	Multimodal terminal	93 Earmark	3,828,609	13(c) issue/ envir. review needed
IN	INDOT	Replacement buses, admin./maint. facility	93 Earmark	8,858,446	No application
IA	Des Moines	Intermodal Transportation Facility	93 Earmark	12,123,694	Eligibility issues

STATUS OF SECTION 3 BUS UNOBLIGATED EARMARKS/ALLOCATIONS

STATE	CITY	PROJECT	YEAR OF EARM./ALLC.	UNOBLIGATED EARM./ALLC.	REASON NOT OBLIGATED
MD	MTA	Fleet replacement	93 Earmark 92 Earmark	21,057,354 1,582,440	Needs 13(c)
MI	MIDOT	Bus replacement	93 Earmark 92 Earmark	9,925,000 825,000	Needs 13(c)
MN	MNDOT	Vehicles, computer equipment	92 Allocation	1,589,648	In negotiations for 13(c)
MS	Mississippi	Capital Cost of Contracting vehicles	90 Allocation	217,008	Needs 13(c)
MO	Kansas City	Replacement buses	93 Earmark	12,538,697	Needs 13(c)
MO	St. Louis	Intermodal facility	93 Earmark	813,580	No application
NJ	Atlantic City	Bus maintenance facility	93 Earmark	17,085,172	No application
NJ	NJ Transit	Entreprenurial service, reverse commuter serv.	91 Allocation	86,000	Needs 13(c)
NJ	State	Radio improvements for buses	93 Earmark	3,254,318	Application in final review
NY	Buffalo	Buses and radio system	93 Earmark	6,125,776	Needs TIP approval, no application
NY	Nassau County	AFI buses, facility improvement	93 Earmark	7,729,006	Needs 13(c)
NY	Queens	Bus service to Rikers Island Penal facil.	91 Allocation	165,870	Needs 13(c), TIP approval
NY	Queens	Maintenance facility	93 Earmark	6,508,636	No application
NM	Rio Rancho	Buses	93 Earmark	325,432	No application
NM	Santa Fe	Transit Center	93 Earmark	325,432	No application

STATUS OF SECTION 3 BUS UNOBLIGATED EARMARKS/ALLOCATIONS

STATE	CITY	PROJECT	YEAR OF EARM./ALLC.	UNOBLIGATED EARM./ALLC.	REASON NOT OBLIGATED
NC	Raleigh	Purchase vans for bus feeder service	92 Earmark	311,000	Application in final review
NC	Statewide	Purchase buses, facilities	93 Earmark	7,417,274	Appl. in review, 13(c) issue
NC	Statewide	Purchase CNG buses	93 Earmark	5,600,000	Application in final review
OH	Dayton	Trolley vehicles	93 Earmark	12,203,694	Needs 13(c)
OR	Eugene	Bus transfer facility	93 Earmark 92 Earmark	3,350,034 3,500,000	Environmental issues/site selection needed
OR	Eugene	Replacement and expansion buses	93 Earmark	4,517,760	Needs 13(c)
OR	Medford	Replacement buses, vans, fueling station	93 Earmark	2,033,949	Needs 13(c)
OR	Portland	Purchase buses	92 Allocation	2,000,000	Needs 13(c), also additional $'s
PA	Erie	Eastside Connector	93 Earmark	4,067,898	No application
PA	Philadelphia	Park-N-Ride lot	92 Earmark	4,000,000	Needs 13(c)
PA	Pittsburgh	Intermodal Station	93 Earmark	8,135,795	No application
PR	San Juan	Purchase buses	93 Earmark	5,742,915	No application
TN	Memphis	Central Station/Multimodal facility	93 Earmark 92 Earmark	6,834,068 1,700,000	Environmental issues/legal issues/needs 13(c)
TN	Memphis	Purchase bldg. to rehab. E & H vehicles	92 Allocation	200,000	No application

STATUS OF SECTION 3 BUS UNOBLIGATED EARMARKS/ALLOCATIONS

STATE	CITY	PROJECT	YEAR OF EARM./ALLC.	UNOBLIGATED EARM./ALLC.	REASON NOT OBLIGATED
TN	Memphis	North End Transit facility	92 Earmark	1,350,000	Final site not selected/needs envir. assessment
TN	Nashville	Intermodal passenger facility	92 Earmark	3,456,800	No application
TX	Brazos	Purch. coaches/intermodal terminal/P&R lots	93 Earmark	10,026,172	Application in final review
TX	Corpus Christi	Transfer terminals/intermodal terminal/P&R lot	93 Earmark	3,158,047	No application
TX	Dallas	Bus operating facility, training academy	93 Earmark	7,500,000	Needs conforming TIP
TX	Dallas	Downtown transfer centers	93 Earmark	21,153,069	Environmental document in review
TX	El Paso	Purchase buses, CNG vehicles	93 Earmark	5,647,201	Spare ratio issue
TX	Fort Worth	Intermodal Facility	92 ISTEA Allc.	3,537,600	Needs 13(c)
UT	Salt Lake City	Purchase buses	93 Earmark	5,168,623	No application
VA	Fairfax County	Dulles Corridor P&R Program	93 Earmark	7,647,648	Appl. being revised/may need more envir. work
WA	Chelan-Douglas	Multimodal Transportation Complex	93 Earmark	1,914,305	Eligibility questions, needs envir. work
WI	Madison	Bus Transfer facilities	90 Earmark	2,493,000	Needs environmental assessement, site selection
		TOTAL		$323,806,263	

STATUS OF SECTION 3 NEW START UNOBLIGATED EARMARKS

STATE	CITY	PROJECT	YEAR OF EARMARK	UNOBLIGATED EARMARK	REASON NOT OBLIGATED
CA	Los Angeles	Metrorail MOS-2	93 Earmark	$49,625,000	No application
CA	Los Angeles	Metrorail MOS-3	93 Earmark	59,550,000	Application in final review
CA	Los Angeles	3 grade separation projects	92 Earmark	10,000,000	New administrative agency, no application
CA	Sacramento	Sacramento LTR Extension	93 Earmark	992,500	Not ready, still in AA/DEIS
CA	San Diego	Mid Coast Extension Preliminary Extension	93 Earmark	1,687,250	Not ready, still in AA/DEIS
			92 Earmark	2,000,000	Not ready, still in AA/DEIS
			91 Earmark	398,000	Not ready, still in AA/DEIS
CA	San Francisco	BART-COLMA Extension	92 Earmark	41,917,420	FFGA under negotiations
CA	San Francisco	Unallocated by MTC	93 Earmark	18,652,500	Remainder of earmark unallocated by MTC
CA	San Francisco	TASMAN extension/final design	93 Earmark	26,010,000	Application in final review
			92 Earmark	21,990,000	
CA	San Francisco	BART Airport Extension	92 Earmark	22,500,000	Application in final review
CA	San Jose	Commuter rail from San Jose to Gilroy	92 Earmark	8,000,000	Not applying because of federal envir. requirements.
CA	Vallejo	North Bay Ferry	92 Earmark	8,000,000	Lawsuit pending asking for envir. impact statement/needs 13(c)
FL	Ft. Lauderdale	Tri-Rail project	93 Earmark	4,639,938	Needs 13(c)
FL	Jacksonville	ASE Peoplemover Extension	93 Earmark	9,925,000	Needs decision on FFGA
			92 Earmark	5,120,000	
			91 Earmark	1	
FL	Miami	Urban Initiative	93 Earmark	2,154,718	Project scope is being determined

STATUS OF SECTION 3 NEW START UNOBLIGATED EARMARKS

STATE	CITY	PROJECT	YEAR OF EARMARK	UNOBLIGATED EARMARK	REASON NOT OBLIGATED
FL	Miami	Downtown Circulator Extentions	93 Earmark	5,393,245	No application
			92 Earmark	5,630,000	
			91 Earmark	11,940,000	
			90 Earmark	2,118,350	
FL	Orlando	Downtown Trolley	93 Earmark	1,985,000	DEIS in review
			92 Earmark	510,000	
GA	Atlanta	North Line Extension for MARTA	93 Earmark	29,775,000	No application
HI	Honolulu	Rapid Transit Starter Line	93 Earmark	75,926,250	Project suspended
IL	Chicago	Central Area Circulator	93 Earmark	21,090,625	
			92 Earmark	19,191,002	
MA	Boston	South Boston Piers Transitway	93 Earmark	37,963,125	Envir. assess. underway, appl. under review
MD	Baltimore	Extension to Central LRT line	93 Earmark	24,812,500	PE/EIS not complete
			92 Earmark	2,560,000	
			91 Earmark	4,975,000	
			90 Earmark	5,952,090	
			89 Earmark	3,382,500	
ME-MA	Portland-Boston	Commuter rail upgrade	93 Earmark	25,308,750	Delays in prepartion of envir. assess.
MI	Detroit	LRT Project	92 Earmark	10,000,000	No Application
MO	Kansas City	PE for Phase I LRT Project	92 Earmark	1,132,000	No Application
MO	St. Louis	METROLINK	93 Earmark	8,481,625	No Application

STATUS OF SECTION 3 NEW START UNOBLIGATED EARMARKS

STATE	CITY	PROJECT	YEAR OF EARMARK	UNOBLIGATED EARMARK	REASON NOT OBLIGATED
NJ	NJ Transit	Hudson waterfront	91 Earmark	17,570,440	No Application
NJ	NJ Transit	Urban Core Project	93 Earmark	64,939,275	Completion of envir. work/project management plan needed
			92 Earmark	95,900,000	
NJ	NJ Transit	Hawthorne Warwick Commuter Rail	93 Earmark	4,466,250	Doing engineering and environmental work
			92 Earmark	34,203,000	
NJ	NJ Transit	Lakewood-Freehold Commuter Rail	93 Earmark	2,977,500	No Application
NY	Buffalo	Naval Park Station	87 Earmark	118,000	Grantee not pursuing candidate for reprogramming
			86 Earmark	690,935	
NY	Staten Island	Staten Island Midtown Ferry	92 Earmark	1,000,000	No Application
NY	MTA	Queens Connection ROW	93 Earmark	15,775,788	Application in final review
OH	Cleveland	Dual Hub Corridor	93 Earmark	1,488,750	Conducting AA/DEIS
			92 Earmark	2,000,000	
			91 Earmark	4,975,000	
			90 Earmark	484,030	
OR	Portland	Joint Development Banfield	90 Earmark	7,936,120	Needs congressional direction to reprogram for Westside
			89 Earmark	5,472,500	
OR	Portland	Westside LRT	93 Earmark	67,490,000	Application in final review

STATUS OF SECTION 3 NEW START UNOBLIGATED EARMARKS

STATE	CITY	PROJECT	YEAR OF EARMARK	UNOBLIGATED EARMARK	REASON NOT OBLIGATED
PA	Philadelphia	Cross County Transit	93 Earmark	694,750	Feasibility study incomplete
			92 Earmark	510,000	
TN	Chattanooga	Trolley Circulator	92 Earmark	1,000,000	Needs congress. action to move funds to bus prog.
TX	Dallas	South Oak Cliff Light Rail	93 Earmark	42,181,250	Final design close to completion
			92 Earmark	20,480,000	
			91 Earmark	19,900,000	
TX	Dallas	Dallas Railtran Commuter	92 Earmark	2,480,000	Envir. assessment in review, not in TIP
TX	Houston	Regional Better Bus Alternative	93 Earmark	175,975	Unused balance of earmark
UT	Salt Lake City	I-15 Light Rail ROW	92 Earmark	1,953,530	Balance of earmark for AA
WA	Seattle	Commuter rail line to Tacoma	93 Earmark	15,185,250	In system planning, application not submitted
			92 Earmark	5,120,000	
				$1,028,457,732	

BUS AND BUS RELATED FACILITIES

Mr. CARR. The 1993 appropriation for buses and bus related facilities is $336,940,000. If the administration's proposed 1993 supplemental request of $270,000,000 is added, the total level recommended in 1993 was $606,940,000. However, the 1994 request is $354,315,000. This seems to indicate that the proposed 1993 supplemental was just a one-time spike in the program and not intended to be maintained by the administration. Is this accurate?

[The information follows:]

No, the proposed 1993 supplemental of $270 million for the Section 3 bus program was not intended to be a one time spike, but part of the beginning of a larger transit capital program. The total FY 1993 supplemental request of $752 million would have raised the amount of transit funding available in FY 1993 to a level slightly less than that proposed in FY 1994. The $270 million component of the stimulus supplemental was proposed as section 3 discretionary bus funds, rather than formula funds, principally in order to expedite the obligation and encumbrance of these funds within a very short time frame. The FY 1994 proposal follows through with a significant increase in capital funds. However, the increase is in the formula programs, with only a modest increase in the discretionary bus program. The formula grants programs are the primary resources for routine capital bus purchases and facility rehabilitation. This additional formula capital funding used for bus capital purposes will reduce the demand on the Section 3 bus program.

Mr. CARR. This Committee has been critical of such funding spikes and believes that a steady level of funding may be even more important than the absolute amounts requested. Does the FTA agree that a steady level of funding is crucial to the successful management of the discretionary bus program, both for the FTA and especially for the bus manufacturers?

[The information follows:]

FTA believes that a steady level of funding for the discretionary bus program is useful. However, more important than that, we believe, is an adequate and steady level of funding for the formula programs, through which all of the nation's bus transit systems receive assistance. If transit systems could rely on a reasonable level of formula capital funding over time, to meet routine bus replacement needs, the enormous demands on the discretionary program would lessen considerably. In terms of the impact on bus manufacturers, it does not matter whether bus orders are being funded from discretionary bus funds or formula funds, so long as the overall level of funding remained steady and manufacturers could rely on outyear funding levels to maintain an even production volume.

ADVANCED TECHNOLOGY TRANSIT BUS

Mr. CARR. Provide the status of the advanced technology transit bus program. Indicate the respective amount of funds provided by the federal government, state and local government, and industry by year. Also indicate the proposed schedule for the program as well as the areas of highest risk in the desired performance.

[The information follows:]

Los Angeles County Metropolitan Transportation Authority (LACMTA) will develop and demonstrate 4–6 advanced technology transit buses (ATTB). This will be a 4-year, 3-Phase, $27 million effort. The Phase I conceptual design portion is currently underway and consists of preliminary design and manufacturing studies for the ATTB. Phase I was scheduled to take 6 months to complete. LACMTA currently has approximately 2 months remaining in this segment of the effort.

Total funding for Phase I of the LACMTA ATTB project is $4,999,611. The Federal share is $3,999,689 with the remaining $999,922 being provided by the local government, there is no direct state or industry contribution. Current contracts for Phase I are in the amount of $3,999,600. Projected expenditures for FY 1993 are $666,600 and $3,333,000 for FY 1994.

The proposed schedule for Phase II and Phase III is as follows:

Phase II will focus on detailed design leading to the manufacture of key components as well as a manufacturing plan. Prototype work would begin to validate the design and cost estimates. This phase will take place over a 13 month period at a total cost of $8.7 million. The federal share will be $6.96 million and the local share $1.74 million. Specific participants, other than LACMTA, and their contributions for the local share of Phases II and III have not been established at this time.

Phase III incorporates the construction of 4–6 buses while at the same time preproduction manufacturing designs and tooling will be finalized. The buses will undergo all required EPA and DOT testing as well as component system and road testing. The vehicles will also be tested and evaluated in actual revenue service. This phase will take place over a 28 month period at a total cost of $14 million. The federal share will be $11.2 million and the local share $2.8 million.

The areas of highest risk with regard to desired performance of the ATTB are; meeting the production cost goal of $300,000 per unit and the curb weight goal of 18,000 lbs. Each of these goals can be met individually. The difficulty will arise in meeting them concurrently.

ISTEA DEMONSTRATION PROJECTS

Mr. Carr. ISTEA authorized 73 transit projects that would require at least $6 billion in authority from the Mass Transit Account of the Highway Trust Fund during the life of ISTEA. However, this does not represent the entire cost of the projects. Provide a list showing for each project, the amount included in ISTEA, and the total estimated cost of each project. Also indicate which projects are included in a state's transportation improvement plan.

[The information follows:]

Attached is a table which lists the Section 3 projects earmarked in ISTEA. The table shows the amount authorized in ISTEA and, where available, the total estimated cost and the proposed Section 3 share. FTA will need additional time to identify those projects which are included in a state's transportation improvement program.

ISTEA DEMONSTRATION PROJECTS

SECTION NUMBER OF ISTEA	PROJECT LOCATION AND DESCRIPTION	ISTEA AUTHORIZATION EARMARKS (In million $)	ESTIMATED TOTAL PROJECT COST (In Million $)	ESTIMATED SECTION 3 COST (In Million $)
3031	Northern New Jersey: Urban Core Project	634.4		
	• Hudson Waterfront		1,130	1,130
	• Secaucus Transfer		400	400*
	• Kearny Connection		N/A	N/A
	• Waterfront Connection		N/A	N/A
	• Northeast Corridor Signal Sys.		N/A	N/A
	• Newark-Newark International Airport- Elizabeth Transit Link		700	700*
	•Rail Connection between Penn Station (Newark) and Broad St.		N/A	N/A
	• New York Penn Station Concourse, and associated equipment.		N/A	N/A *Previous expenditures constitute local match in accordance with Section 1044 of ISTEA. NJ Transit also seeks FAA approval to use $150 million in airport passenger fees.
3032	San Francisco Bay Area Rail Extensions	568.5		
	• Airport Extension		960	591
	• Tasman Corridor Project		480	240
	• Colma Extension		171	124
3033	New York: Queens Local Express Connection	306.0	645	322
3034	Los Angeles: Metro Rail Project (MOS-3)	695.0*		
	• Mid City		491	243
	• Hollywood		1,450	695
	• Eastside Extension	*Plus $535 million in advance construction authority	900	450

ISTEA DEMONSTRATION PROJECTS

SECTION NUMBER OF ISTEA	PROJECT LOCATION AND DESCRIPTION	ISTEA AUTHORIZATION EARMARKS (in Million $)	ESTIMATED TOTAL PROJECT COST (In Million $)	ESTIMATED SECTION 3 COST (In Million $)
3035	Miscellaneous Multiyear Contracts			
(a)	• Hawthorne, NJ-Warwick, NY Commuter Rail Service	46.9	N/A	N/A
(b)	• Portland, OR-Westside Light Rail Project	515.0	688	516
(c)	• Vallejo, CA - North Bay Ferry Service	17.0	N/A	N/A
(d)	• New York, NY - Staten Island -Midtown Manhattan Ferry Service	12.0	N/A	N/A
(e)	• Chicago, IL - Central Area Circulator Project	260.0	750	250
(f)	• Salt Lake City, UT - Light Rail Project	131.0	230	131
(g)	• Los Angeles, CA - Los Angeles - San Diego Rail Corridor Improvement Project	20.0	N/A	N/A
(h)	• San Jose, CA - Gilroy-Hollister Commuter Rail Project	21.0	N/A	N/A
(i)	• Dallas, TX - Dallas Light Rail Project	160.0	360	160
(j)	• Boston, MA - South Boston Piers Transitway Project	278.0	700	560
(k)	• Kansas City, MO - Kansas City Light Rail Project	5.9	250	200
(l)	• Orlando, FL - Orlando Streetcar (OSCAR) Downtown Trolley Project	5.0	50	25
(m)	• Detroit, MI - Detroit Light Rail Project	20.0	N/A	N/A
(n)	• Altoona, PA - Bus and Bus Related Equipment Purchases	2.0	N/A	N/A

ISTEA DEMONSTRATION PROJECTS

SECTION NUMBER OF ISTEA	PROJECT LOCATION AND DESCRIPTION	ISTEA AUTHORIZATION EARMARKS (In Million $)	ESTIMATED TOTAL PROJECT COST (In Million $)	ESTIMATED SECTION 3 COST (In Million $)
3035				
(o)	• Long Beach, CA - Long Beach Metro Link Fixed Rail Project	4.0	N/A	N/A
(p)	• Lakewood-Freehold-Matawan or Jamesburg,NJ-Commuter Rail Project	7.8	N/A	N/A
(q)	• San Francisco, CA - Multimodal Transportation Parking Facility	2.5	N/A	N/A
(r)	• Charlotte, NC - Charlotte Light Rail Study	0.5	N/A	N/A
(s)	• Atlanta, GA - Buckhead People Mover	0.2	N/A	N/A
(t)	• Cleveland, OH - Cleveland Dual Hub Rail Project	5.0	600	300
(u)	• San Diego, CA - San Diego Mid Coast Light Rail Project	27.0	350	280
(v)	• Chattanooga, TN - Chattanooga Downtown Trolley Project	2.0	17	14
(w)	• Northeast, OH - Northeast Ohio Commuter Rail Feasibility Study	1.6	N/A	N/A
(x)	• Dallas/Fort Worth, TX - RAILTRAN Commuter Rail Project	5.7	N/A	N/A
(y)	• Johnstown, PA - Bus and Bus Related Equipment Purchases	1.6	N/A	N/A
(z)	• Eureka Springs, AR - Bus Purchase	0.1	N/A	N/A
(aa)	• Tucson, AZ - Tucson Dial-a-Ride Project	8.0	N/A	N/A
(bb)	• Long Beach, CA - Long Beach Bus Facility Project	13.9	N/A	N/A
(cc)	• Philadelphia, PA - Park-and Ride Lot	4.0	N/A	N/A

ISTEA DEMONSTRATION PROJECTS

SECTION NUMBER OF ISTEA	PROJECT LOCATION AND DESCRIPTION	ISTEA AUTHORIZATION EARMARKS (In Million $)	ESTIMATED TOTAL PROJECT COST (In Million $)	ESTIMATED SECTION 3 COST (In Million $)
3035				
(dd)	• Nashville, TN - Nashville Intermodal Terminal	3.7	N/A	N/A
(ee)	• Akron, OH - Main Street Transit Mall	1.5	N/A	N/A
(ff)	• Chicago, IL - People Mobilizer	2.3	N/A	N/A
(gg)	• State College, PA - Centre Area Transportation Authority Reimbursement	1.0	N/A	N/A
(hh)	• Key West, FL - Bus Purchases	0.2	N/A	N/A
(ii)	• Boston, MA - North Station - South Station Rail Link	0.3	N/A	N/A
(jj)	• Buffalo, NY - Metro Bus Transit Centers	2.0	N/A	N/A
(kk)	• State of Michigan - Bus and Bus Related Equipment Purchases	61.0	N/A	N/A
(ll)	• Ann Arbor, MI - Advanced Fare Technology Purchase	1.5	N/A	N/A
(mm)	• San Francisco, CA - BART Parking	12.6	N/A	N/A
(nn)	• State of Maryland - Baltimore Washington Transportation Improvement Program			
	· Baltimore - Central Light Rail Extension	60.0	102	80
	· Frederick and Waldorf - MARC Ext.	160.0	N/A	N/A
	· Largo - WMATA Rail Extension	5.0	700	560
(oo)	• Milwaukee, WI - Milwaukee East-West Corridor Project	200.0	350	150

ISTEA DEMONSTRATION PROJECTS

SECTION NUMBER OF ISTEA	PROJECT LOCATION AND DESCRIPTION	ISTEA AUTHORIZATION EARMARKS (In Million $)	ESTIMATED TOTAL PROJECT COST (In Million $)	ESTIMATED SECTION 3 COST (In Million $)
3035				
(pp)	• Boston, MA and Portland, ME - Boston to Portland Transportation Corridor	30.0	50	30
(qq)	• Philadelphia, PA - Northeast Philadelphia Commuter Rail Study	0.4	N/A	N/A
(rr)	• Atlanta, GA - Atlanta Commuter Rail Study	0.1	N/A	N/A
(ss)	• Pittsburgh, PA - Pittsburgh Light Rail Rehabilitation Project	5.0	N/A	N/A
(tt)	• Atlanta, Ga - North Line RRT Ext.	329.0	483	385
(uu)	• Houston, TX - Houston Priority Corridor Fixed Guideway Project (Regional Bus)	500.0	1,250	625
(vv)	• Jacksonville, FL - Automated Skyway Express Extension	71.2	172	136
(ww)	• Honolulu, HI - Rapid Transit Project	618.0	2,300	618
(xx)	• Sacramento, CA - Light Rail Project	26.0	200	100
(yy)	• Philadelphia, PA - Philadelphia Cross-County Metro Rail Project	2.4	N/A	N/A
(zz)	• Cleveland, OH - Blue Line LRT Ext.	1.2	N/A	N/A
(aaa)	• State of Virginia - Dulles Corridor Rail Project	6.0	1,000	N/A
(bbb)	• Seattle, WA - Puget Sound Core Rapid Transit Project	300.0	N/A	N/A
(ccc)	• Seattle, WA - Seattle-Takoma Commuter Rail	25.0	200	25
(ddd)	• Altoona, PA - Pedestrian Crossover	3.2	N/A	N/A
(eee)	• State of California - Multi-Modal Transit Parkway	15.0	30	15
(fff)	• New Orleans, LA - Canal Street Corridor Light Rail	4.8	90	72
Total		**6,230.0**	**18,249**	**10,127**

SECTION 3 FUNDING SPLIT

Mr. **Wolf.** Mr. McManus, your FY 1994 budget does not propose to follow the standard 40–40–20 ratio between new starts, rail modernization and bus obligations. You indicate you are proposing a larger proportion for rail modernization because of the added costs older systems are now facing to fully comply with ADA. What is the ratio you are proposing between new, rail mod, and bus for fiscal year 1994?

[The information follows:]

The FY 1994 budget requests 37.1 percent for new starts, 42.9 percent for fixed guideway modernization and 20 percent for bus.

UNOBLIGATED BALANCES

Mr. **Wolf.** You specifically focused on two Section 3 programs, new starts and discretionary bus, as having large sums under the mattress. How much do you expect to carry out over in each of these programs at the end of FY 1993?

[The information follows:]

The anticipated carryover amount at the end of FY 1993 for the Section 3 bus program is approximately $100 million of which 90 percent is earmarked.

The anticipated carryover amount at the end of FY 1993 for the Section 3 new start program is approximately $440 million of earmarked funds.

Mr. **Wolf.** Do grantees under both of these programs have to obligate funding within a certain time frame? If so, within how many years? If not, would you recommend a time limitation, and if so, how many years should such a "use-or-lose" provision entail?

[The information follows.]

A provision of the 1993 Appropriations Act requires that FY 1993 Section 3 bus and new start funds which are not obligated by September 30, 1995 shall be made available for other projects under Section 3 of the Federal Transit Act, as amended. We are pleased that this provision was added to the 1993 Appropriations Act, and recommend that it be continued. We recommend that this provision not only apply to the current year's allocations, but be expanded to include a time limitation on bus and new start allocations/earmarks under these programs made in FY 1992 and prior years. Thus, all new starts allocations/earmarks not obligated by September 30, 1995 would be made available for other Section 3 projects which are ready to proceed. This means that funds allocated in FY 1994 would have a two-year time limitation.

Mr. **Wolf.** Of the unobligated balances which will be carried over at the end of FY 1993, are they any projects in the pipeline which will be carrying balances older than three years?

[The information follows:]

Yes. These projects are as follows:

	Millions
Section 3 Bus:	
Sacramento, Ca—Initial Increment trolley coach line	$6.7
Los Angeles, Ca—Foothills Park-N-Ride	1.5
Section 3 Rail Modernization: Philadelphia, Pa—SEPTA North Line Improvements	.9
Section 3 New Starts:	
Buffalo, NY—Naval Park Station	.9
Miami, Fl—Downtown Circulator Extension	2.1
Cleveland, Oh-Dual Hub Corridor	.5
Portland, Or—Joint Development-Banfield	13.4
Total	26.0

FOREIGN PARTICIPATION IN RESEARCH

Mr. Wolf. If there are joint research efforts, can you increase my comfort level by explaining that safeguards are build into these joint arrangements to prevent "friendly" espionage?

[The information follows:]

We have one joint study effort with the Ontario (Canada) Ministry of Transportation to investigate innovative maintenance technologies from other industries that may be applied to transit. Both the United States and Canada will benefit from this study. There is no espionage opportunities, friendly or otherwise.

Mr. Wolf. For example, what kind of disclosure of both contractors and subcontractors is required?

[The information follows:]

Both grantees and contractors must tell us who their subcontractors are. Also in the contract between the Federal government and a contractor, there is a statement that the contractor can not communication the results of the contract effort to anyone without government approval.

Mr. Wolf. And, does the U.S. Government insist on patent rights in joint research arrangements with participation by other countries or foreign companies?

[The information follows:]

At the present FTA does not have joint research with foreign companies or countries which would require patent rights. If there were such joint research, the patent rights clause which is used for domestic companies would apply. This is that the initial rights are to the contractors with a non-exclusive, royalty free, paid up license for Federal government use.

ELDERLY ACCESS

Mr. Wolf. What kinds of vehicles and equipment are eligible for funding under Section 16?

[The information follows:]

Most of the Section 16 funds are used to purchase vans or small buses, but other capital equipment is also eligible, for example, other vehicle types (from sedans to larger buses), vehicle related equipment such as radios and communication equipment, wheelchair lifts, passenger shelters, capital maintenance items, and related support equipment such as microcomputer hardware and software. Equipment may be leased when lease is more cost effective than purchase. Under a new provision of the ISTEA, acquisition of transportation services under a contract, lease, or other arrangement is an eligible capital expense.

Mr. Wolf. Do you have some sense of whether the supply of such paratransit services across the nation comes close to meeting the demand?

[The information follows:]

An annual funding level of approximately $71 million would be required simply to replace the vehicles previously purchased with Section 16 assistance which have exceeded their expected useful life. The proposed increased funding in FY 1994 is likely to be applied to deferred capital replacement needs and to the increased costs of vehicles which meet the requirements of the Americans with Disabilities Act and the Clean Air Act Amendments, rather than to expansion of service.

Vehicles purchased under the Section 16 program represent only a fraction of the total fleet of vehicles used in such paratransit services. Many more vehicles are purchased and operated using Federal, state, and local human service program funds, or private resources. FTA cannot quantify the exact extent of this larger network of community transportation services funded from other sources. Seen as a whole, these paratransit systems meet many, but not all, of the transportation needs of elderly persons and persons with disabilities.

URBAN WORK TRIPS

Mr. **Carr**. Please update the information that appears on page 27 of the 1993 hearing volume dealing with urban work trips.

[The information follows:]

Nationally, the Census found that about 6.1 million workers used public transit to get to work in 1990, about the same number as in 1980. However, because of the large growth in the number of workers during the 1980's, transit's share of the overall national market declined during that period from 6.4 percent of all workers to 5.3 percent of all workers.

In 1980, the share of workers in urbanized areas was 9 percent. Unfortunately, we are not yet able to update this information, since although overall data has been released, the details of the 1990 Census data on the journey to work are not yet available. However, it can be said that, because the urbanized area market grew, transit's share in 1990 is likely to be somewhat smaller.

We are also not yet able to develop transit's market share by urbanized areas work trip "flows." The 1992 hearing record included data on transit's share of four work trip "flows": Suburb to Suburb, Suburb to Central City, Central city to Suburb, and Central City to Central City. The necessary Census data should be available during the latter part of 1993. While the analysis is quite complex, requiring coding of work trips by their location within or without specific urbanized areas, we hope to have it completed by early 1994, in time for next year's hearings.

FY 1994 BUDGET REQUESTS

Mr. **Carr**. Please provide a side-by-side budget comparison of the FTA budget submissions to the Office of the Secretary of Transportation, the Office of Management and Budget, and the President's Budget to the Congress.

[The information follows:]

DEPARTMENT OF TRANSPORTATION
FEDERAL TRANSIT ADMINISTRATION

FY 1994 BUDGET REQUESTS
(thousands of dollars)

	FY 1994		
	Request to OST	Request to OMB	President's Budget
ADMINISTRATIVE EXPENSES	$51,068	$46,476	$39,457
FORMULA GRANTS	2,805,520	1,819,912	2,454,867
Operating Assistance (SEC.9)	(698,837)	(535,100)	(802,278)
Capital Grants (SEC.9)	(1,895,903)	(1,142,929)	(1,441,819)
Elderly & Disabled	(59,764)	(44,220)	(58,985)
Nonurban Formula (SEC.18)	(151,016)	(97,663)	(130,609)
Planning (SEC. 8)	...	...	(21,176)
UNIVERSITY TRANSPORTATION CENTERS	7,000	7,000	6,000
TRANSIT PLANNING & RESEARCH	133,800	99,000	85,000
Metropolitan Planning	(60,210)	(44,550)	(38,250)
RTAP	(6,690)	(4,950)	(4,250)
State Planning & Research	(12,630)	(9,150)	(7,750)
National Planning & Research	(38,640)	(28,200)	(24,000)
Transit Cooperative Research	(12,630)	(9,150)	(7,750)
National Transit Institute	(3,000)	(3,000)	(3,000)
DISCRETIONARY GRANTS):	1,385,000	1,250,000	1,771,575
Bus and Bus Related	(277,000)	(250,000)	(354,315)
Fixed Guideway Modernization	(554,000)	(500,000)	(760,060)
New Starts	(554,000)	(500,000)	(657,200)
WASHINGTON METRO	200,000	200,000	200,000
INTERSTATE TRANSFER–TRANSIT	77,612	77,612	45,000
TOTAL–FTA	$4,660,000	$3,500,000	$4,601,899

LAND USE PLANNING

Mr. CARR. Please indicate the role that land use planning has in the consideration of a transit project. Also indicate how this has changed since the passage of ISTEA and what, if any, additional changes you foresee in the future.

[The information follows:]

Land use planning is used during FTA's project planning process as the input to the travel demand models that produce ridership estimates. The level of development expected along a proposed transit corridor will have a substantial impact on future system ridership. Land use projection also affects system capacity requirements and cost effectiveness.

Proposed transit systems with exemplary land use policies supportive of transit are recognized in the 3(j) report under "Other Factors." FTA is also working with the Urban Land Institute to develop criteria to evaluate local land use policies supportive of transit as a rating criteria within the 3(j) report consistent with the direction of ISTEA.

FAREBOX RECOVERY OF OPERATING EXPENSES

Mr. CARR. Please update and expand on the information provided on page 57 of the 1993 hearing volume relating to farebox recovery of operating expenses.

[The information follows:]

The following is a ranking of those systems with rail transit in terms of the share of operating costs covered by fare revenues, based on Section 15 data from 1991, with the top ten and bottom ten noted. Because transit operators are not required to report fare revenue by mode, for multimodal systems (marked with a " * " in the following chart), the fare recovery ratio shown is for the system as a whole, rather than for the rail operations alone.

Transit system	Fare recovery ratio (percent)	Vehicles operated in max. service
Top ten:		
Seattle Monorail	96.2	8
Chicago-Burlington Northern RR	90.0	133
San Diego Trolley	80.3	59
Philadelphia-Port Authority Transit	65.4	102
Northwest Indiana Commuter TD	63.3	39
Chicago & Northwestern RR	62.6	280
NY-Metro-North Commuter RR	59.5	706
New Jersey Transit*	58.0	2,319
Atlanta-Metro Atlanta Rapid TA*	54.6	737
San Francisco-Bay Area Rapid Transit	51.7	431
Philadelphia-Southeastern Penna TA*	51.4	1,979
NY-Long Island Railroad	51.1	979
Washington-WMATA*	50.8	1,947
NY-New York City TA*	47.6	7,840
New Orleans-RTA*	47.3	426
NY-Port Authority Trans Hudson	46.5	300
Chicago Transit Authority*	43.6	2,907
Baltimore-Mass Transit Admin*	42.9	869
Buffalo-Niagara Frontier TA*	42.2	336
LA-Southern Calif RTD*	40.0	1,998
NY-Staten Island Rapid Transit OA	35.9	36
Portland-Tri-Met*	33.5	532
Galveston-Island Transit	32.9	16
Pittsburgh-PAT*	32.9	805
Bottom ten:		
San Francisco-Muni*	32.7	859
Miami-Metro Dade TA*	32.4	574
Chicago-Metra	31.7	418
Cleveland-RTA*	31.6	770

Transit system	Fare recovery ratio (percent)	Vehicles operated in max. service
Seattle-Metro*	29.7	1,670
Sacramento-Regional Transit*	29.0	190
Jacksonville TA*	25.3	183
Boston-Mass Bay TA*	24.6	1,540
San Jose-Santa Clara County*	19.5	456
Detroit (Downtown People Mover)	18.1	10
SF-Caltrains	NA	61
Baltimore-MARC	NA	71
Ft. Lauderdale-Tri County RA	NA	20
LA-Caltrans	NA	16

TRANSFER OF CAPITAL ASSETS

Mr. CARR. Section 12(k) of the Federal Transit Act, as amended, authorizes the transfer of capital assets under certain circumstances. Please indicate the requirements that have to be met to allow such transfers. Also indicate if the Secretary of Transportation has ever allowed such transfers to occur. Does the Department have any pending requests to allow such transfers?

[The information follows:]

Section 12(k) of the Federal Transit Act, as amended, requires the recipient to determine that the facilities, equipment or other assets (including land) previously acquired, in whole or in part, with Federal assistance are no longer needed for the purposes for which they were acquired. The Secretary may authorize a transfer to any public body providing a determination is made that the asset being transferred will remain in public use for 5 years after the date of transfer; there are no purposes eligible for assistance under the Act for which the asset should be used; the overall benefit for allowing the transfer outweighs the Federal Government's interest; and that other Federal agencies are not interested in the asset.

The grantee is required to furnish the original FTA grant budget, a current appraisal, a description of the asset, and a resolution from its board. The Regional office will generate a Federal Register survey of other Federal interest after which the grantee will be notified of the decision. To date four transfer requests under Section 12(k) are pending, but no final transfers have occurred.

MAIN EFFECTS OF THE CLEAN AIR ACT ON THE BUS PROGRAM

Mr. CARR. What are the likely impacts of the Clean Air Act and the National Energy Policy Act on the bus program?

[The information follows:]

The requirements of the Clean Air Act Amendments and the National Energy Policy Act of 1992 are as follows. Under the Clean Air Act Amendments, the model year 1992 particulate emission standard was 0.25 grams per Brake Horsepower-Hour (gbh) for urban buses in Metropolitan Statistical Areas (MSA's) of 750,000 or more. This standard can currently be met by urban buses using clean (low sulphur) diesel fuel without a particulate trap. If the bus cannot meet this standard with clean diesel fuel alone, then a particulate trap is sufficient.

The EPA Administrator has issued new regulations that set emission standards for urban buses. These buses must meet a 0.1 gbh particulate emission standard in model year 1993, and a 0.07 gbh level in 1994. FTA believes that the engine and particulate trap technology will allow urban buses to meet this standard. The emission standard declines once more to 0.05 gbh for model year 1996 buses. If urban buses are able to meet the 1994 and 1996 emission standards using clean diesel fuel and particulate traps, FTA estimates that bus capital costs could increase by $45 million each year. This assumes that 3,000 buses are purchased each year. On that same basis, operating costs would increase by $80 million each year.

If clean diesel fuel and particulate traps are inadequate to meet the new emission standards, then alternatively fueled vehicles will have to be purchased. In this case, capital costs are estimated to rise by $100 million per year, while added costs for fuel and operations could rise by $300 million per year. There would also be a one-time added cost of $1.3 billion to convert bus garages and fueling facilities to alternative fuels. This expense would be spread over a number of years. These costs are based on a purchase rate for alternatively fueled buses of 1,500 per year, because the Clean Air Act requires that 50 percent of small and regular urban bus purchases between 1998 and 2000 be alternatively fueled vehicles.

The National Energy Policy Act requires that the Energy Secretary establish an alternative fuel fleet vehicle purchase program, beginning in 2000, based on the Secretary's estimate that the national alternative fuel use goal will be met by 2010. The goal is for 30 percent of motor fuels used in 2010 to come from domestically produced replacement and alternative fuels.

GRANT CLOSEOUTS

Mr. CARR. Please update the information appearing on page 137 of the 1993 hearing volume concerning Federal Transit Administration project closeouts.

[The information follows:]

FTA project closeouts by fiscal year

Fiscal year:	*Number*
1985	1,216
1986	1,717
1987	2,375
1988	2,359
1989	1,611
1990	1,474
1991	1,065
1992	1,225
1993 as of May 18, 1993	561
Total	13,603

ANNUAL ACCIDENT DATA

Mr. CARR. Please update the information appearing on pages 142–145 of the 1993 hearing volume concerning annual accident data for transit and rail systems.

[The information follows:]

Updated information derived from 1991 Section 15 reports submitted to the Federal Transit Administration follows. The abbreviations used on the tables are:

AG—Automated Guideway
CR—Commuter Rail
DR—Demand Responsive
LMB—Large Bus
MMB—Medium Bus
RR—Rapid Rail
LR—Light Rail
VP—Van Pool
SMB—Small Bus

Personal Casualties
by Result and Mode

Incidents

	On Vehicle	Enter/Exit	Lifts*	Station/Stop	Escalators**
AG	0	0	0	0	0
CR	326	783	0	634	0
DR	294	238	51	34	1
LMB	6,302	3,762	51	266	1
SMB	1,363	1,078	55	214	0
MMB	4,293	2,656	70	655	1
RR	1,294	735	0	7,465	1,264
LR	314	304	0	268	37
VP	2	2	0	0	0
ALL TRANSIT	14,188	9,558	227	9,556	1,304

Deaths

	On Vehicle	Enter/Exit	Lifts*	Station/Stop	Escalators**
AG	0	0	0	0	0
CR	0	2	0	11	0
DR	1	0	0	0	0
LMB	1	1	0	1	0
SMB	1	1	0	1	0
MMB	0	0	0	0	0
RR	3	2	0	13	1
LR	0	0	0	0	0
VP	0	0	0	0	0
ALL TRANSIT	6	6	0	26	1

Injuries

	On Vehicle	Enter/Exit	Lifts*	Station/Stop	Escalators**
AG	0	0	0	0	0
CR	326	781	0	631	0
DR	290	230	48	32	1
LMB	6,685	3,792	50	259	1
SMB	1,410	1,064	53	214	0
MMB	4,751	2,703	53	658	1
RR	1,270	740	0	7,500	1,287
LR	316	310	0	268	38
VP	2	2	0	0	0
ALL TRANSIT	15,050	9,642	204	9,562	1,328

* Lift figures are included in the Enter/Exit figures.

** Escalator figures are included in the Station/Stop figures.

CY 1991

Derailment or Left Roadway

Number and Result by Mode

	INCIDENTS	FATALITIES	INJURIES
AG	0	0	0
CR	60	0	6
DR	4	0	1
LMB	30	0	13
SMB	20	0	4
MMB	67	0	3
RR	8	5	178
LR	40	0	12
VP	0	0	0
ALL TRANSIT	229	5	217

Operating Statistics

	Veh. Miles	Passengers	Pass. Miles	Property Dmg.
AG	1,860,906	5,958,893	7,228,051	$3,517
CR	205,276,155	307,311,990	6,804,419,108	$1,370,729
DR	71,726,522	13,468,766	101,700,573	$1,492,942
LMB	816,537,201	2,978,584,127	9,559,613,863	$12,050,771
SMB	293,880,071	499,728,505	1,984,746,940	$3,543,247
MMB	587,085,341	1,314,856,188	5,851,140,849	$11,238,640
RR	521,637,984	2,123,162,678	10,420,500,859	$6,525,828
LR	27,316,440	183,563,959	647,579,641	$1,008,107
VP	9,697,207	2,645,467	68,805,297	$248,711
ALL TRANSIT	2,535,217,827	7,456,300,773	35,445,737,181	$37,477,492

CY 1991

Collisions
by Result and Mode

Incidents

	VEHICLE	OBJECT	PEOPLE	SUICIDE*
AG	0	1	0	0
CR	64	22	124	22
DR	587	213	10	0
LMB	24,696	2,000	913	1
SMB	2,766	724	94	1
MMB	11,149	1,618	393	1
RR	32	9	186	47
LR	520	44	69	2
VP	65	10	1	0
ALL TRANSIT	39,882	4,641	1,790	74

Deaths

	VEHICLE	OBJECT	PEOPLE	SUICIDE*
AG	0	0	0	0
CR	6	1	73	22
DR	0	0	2	0
LMB	25	0	25	1
SMB	6	0	2	1
MMB	14	0	10	0
RR	0	0	80	21
LR	5	0	8	2
VP	0	0	0	0
ALL TRANSIT	58	1	200	47

Injuries

	VEHICLE	OBJECT	PEOPLE	SUICIDE*
AG	0	0	0	0
CR	492	5	57	0
DR	186	9	4	0
LMB	10,950	486	918	0
SMB	1,325	78	87	0
MMB	4,570	201	382	1
RR	45	0	113	23
LR	363	36	63	0
VP	36	0	0	0
ALL TRANSIT	17,967	815	1,624	27

* Suicide figures are included in collision with people figures. CY 1991

Fires
by Result and Mode

Incidents

	Vehicle	Station	R-O-W/Road
AG	0	1	0
CR	44	30	621
DR	12	0	0
LMB	140	1	5
SMB	29	5	2
MMB	128	1	7
RR	589	2,082	2,453
LR	17	26	53
VP	0	0	0
ALL TRANSIT	959	2,146	3,141

Deaths

	Vehicle	Station	R-O-W/Road
AG	0	0	0
CR	0	0	0
DR	0	0	0
LMB	0	0	0
SMB	0	0	0
MMB	0	0	0
RR	0	0	0
LR	0	0	0
VP	0	0	0
ALL TRANSIT	0	0	0

Injuries

	Vehicle	Station	R-O-W/Road
AG	0	0	0
CR	11	0	1
DR	0	0	0
LMB	6	0	0
SMB	0	3	0
MMB	5	0	0
RR	51	108	1
LR	1	0	0
VP	0	0	0
ALL TRANSIT	74	111	2

CY 1991

MASS TRANSIT ACCOUNT STATUS

Mr. Carr. Please provide estimated receipts and outlays from the mass transit account of the highway trust fund for fiscal years 1992 through 1998.

[The information follows:]

DEPARTMENT OF TRANSPORTATION
FEDERAL TRANSIT ADMINISTRATION
STATUS OF THE MASS TRANSIT ACCOUNT OF THE HIGHWAY TRUST FUND

(In thousands of dollars)

	FY 1992 Actual	FY 1993 Estimate	FY 1994 Estimate	FY 1995 Estimate	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate
Cash balance, start of year	9,250,122	9,798,159	10,042,870	10,008,707	9,886,811	10,450,271	10,101,790
Cash income during the year, Governmental receipts:							
Motor fuel taxes	1,069,826	1,959,000	1,987,000	2,022,000	2,730,000	2,783,000	2,815,000
Interest on investments	746,058	710,400	639,200	574,600	542,900	573,900	554,700
Total annual income	1,815,883	2,669,400	2,626,200	2,596,600	3,272,900	3,356,900	3,369,700
Cash outlays during the year:							
Discretionary Grants (liquidation of contract authorization)	1,267,845	1,290,539	1,470,363	1,568,496	1,599,440	1,785,381	1,825,213
Trust fund share of Transit programs	...	1,134,150	1,190,000	1,150,000	1,110,000	1,920,000	1,968,000
Total annual outlays	1,267,845	2,424,689	2,660,363	2,718,496	2,709,440	3,705,381	3,793,213
Cash balance, end of year	9,798,159	10,042,870	10,008,707	9,886,811	10,450,271	10,101,790	9,678,277
Commitments	(5,057,851)	(5,508,162)	(5,822,799)	(5,979,303)	(6,044,863)	(7,139,482)	(8,266,269)
Cash in excess of commitments	(4,740,308)	(4,534,708)	(4,185,908)	(3,907,508)	(4,405,408)	(2,962,308)	(1,412,008)

STATUS OF FUND AVAILABILITY

Mr. Carr. Please update the table that appears on page 158 of the 1993 hearing volume concerning the status of funds by activity.

[The information follows:]

The information for the period ending April 30, 1993 follows:

Department of Transportation
Federal Transit Administration
Status of Fund Availability

APPROPRIATIONS	Total FY 1993 Funding Availability		Less Obligations as of 4/30/93	Unobligated Balance as of 4/30/93
ADMINISTRATIVE EXPENSES	38,570,000		20,694,649	17,875,351
DISCRETIONARY GRANTS				
Bus	462,452,255		138,963,325	323,488,930
Fixed Guideway Modernization	852,466,655		491,215,100	361,251,555
New System	1,340,529,970		117,384,125	1,223,145,845
Technology Introduction	1,421,598		1,419,996	1,602
3/4 % Set Aside for Oversight	21,665,155		424,074	21,241,081
Planning	2,707,460		303,071	2,404,389
Transit Planning and Research	4,553,956		3,837,684	3,837,684
Elderly and Disabled	1,353,236		1,167,030	186,206
Section 16b2 transferred to Section 18	239,268		108,655	130,613
Bus Testing Facility	3,992,907		0	3,992,907
Sec. 9B Blend	100,621,445		50,389,898	50,231,547
Sec. 9B Blend transferred to Sec. 18	82,202		75,696	6,506
Section 18 (h) RTAP	830		0	830
Reimbursable	1,365,000		0	1,365,000
Miscellaneous	21,613		0	21,613
Undistributed Discretionary	3,943,925		0	3,943,925
Total, Discretionary Grants	2,797,417,475		805,288,654	1,992,128,821
RESEARCH, TRAINING, AND HUMAN RESOURCES				
Research and Development	4,495,421		2,250,000	2,245,421
Managerial Training	350,000		350,000	0
Human Resources	1,723,000		175,000	1,548,000
Section 18 & RTAP	949,211		293,037	656,174
Reimbursable	20,000		0	20,000
Planning and Research	1,766,500		1,071,000	695,500
Undistributed	437,127		0	437,127
Total, Research, Training, and Human Resources	9,741,259		4,139,037	5,602,222
FORMULA GRANTS				
Urban Formula (Section 5)	186,883		42,388	144,495
Urban Formula (Section 9)	2,022,260,621	1/	1,084,162,142	938,098,479
Nonurban Formula (Section 18)	107,563,637	1/	30,005,338	77,558,299
RTAP	15,353		0	15,353
Miscellaneous	2,741,742		0	2,741,742
Section 16b2, Elderly and Disabled	48,636,000		9,986,492	38,649,508
Total, Formula Grants	2,181,404,236		1,124,196,360	1,057,207,876
TRANSIT PLANNING AND RESEARCH				
Section 26, TPR	77,750,000		25,011,393	52,738,607
National Transit Institute	3,000,000		0	3,000,000
Section 18, RTAP	4,250,000		1,069,316	3,180,684
Intermodal Fuel Cell	11,881,477		0	11,881,477
Reimbursable	450,000		250,000	200,000
Undistributed	1,153,988		0	1,153,988
Total, Transit Planning and Research	98,485,465		26,330,709	72,154,756
TRUST FUND SHARE OF TRANSIT PROGRAMS	15,850,000		0	15,850,000
UNIVERSITY TRANSPORTATION CENTERS	6,000,000		6,000,000	0
INTERSTATE TRANSFER GRANTS	111,293,987	1/	63,567,980	47,726,007
WASHINGTON METRO	171,406,959	1/	144,068,000	27,338,959
FTA TOTAL	5,430,169,381		2,194,285,389	3,235,883,992

1/ Includes 1/2 % Set Aside

NEW STARTS ACTIVITY SUMMARY

Mr. Carr. Please update the information appearing on pages 162–163 of the 1993 hearing volume concerning FTA assisted new starts and extensions.

[The information follows:]

FTA ASSISTED NEW STARTS AND EXTENSIONS
OPEN

ATLANTA	
East-West Line/Avondale to Hightower	33 miles
North-South Line/North to Garnett	
North Line/North to Lenox	
South Line/Garnett to Lakewood	
Northeast Line/Brookhaven to Chamblee	
Chamblee to Doraville	
South Line/Lakewood Airport	
BALTIMORE	
Northwest Line - Charles Center to Owings Mills	14
BOSTON	
Orange Line, North Extension - Haymarket to Oak Grove	6
Red Line, North Extension - Harvard to Alewife	3
Red Line, South Extension - Quincy Center to Braintree	9
Orange Line, Southwest Line - Washington St. to Forest Hills	6
BUFFALO	
Main Street Mall to SUNY South Campus	6
CHICAGO	
METRA Electric - Richton Park to University Park	2
Dan Ryan Extension - Downtown to 95th Street	10
Kennedy Extension - Logan Square to Jefferson Park	5
O'Hare Extension - Jefferson Park to O'Hare Airport	7
CLEVELAND	
Airport Extension - West Park to Airport	4
DETROIT	
Downtown Loop	3
HOUSTON	
Northwest Busway - Interstate 610 to West Little York Road	10
North Transitway - Downtown to North Shephard	9
Katy Transitway - North Post Oak to Highway 6	12
JACKSONVILLE	
Central to Terminal	1
LOS ANGELES	
San Bernardino Freeway - El Monte Busway	11
MIAMI	
Dadeland South to Okeechobee	21
Downtown Loop	2
NEW YORK	
Archer Ave. Line - Queens Blvd/Hillside Ave. to Archer	3
63rd St. Line - 57th/7th Ave. to 21St/ 41 Ave., Queens	3
PHILADELPHIA	
Center City Commuter Connection (Tunnel)	2
Airport Rail Line	5
PITTSBURGH	
South Busway - Downtown to Overbrook	5
East Busway - Downtown to Wilkinsburg	7
Light Rail Downtown to South Hills Village	10
PORTLAND	
Banfield Light Rail - Downtown to Gresham	15

Continued on next page

SACRAMENTO	
Northeast Line - Downtown to Watt Ave and I-80	9
East Line - Downtown to Butterfield Way	9
SAN DIEGO	
Euclid Avenue to El Cajon	11
SAN FRANCISCO	
BART System - Daly City, Richmond, Concord and Fremont Service	71
Muni System - Market St. Light Rail Subway - Embarcadero to Twin Peaks Tunnel	4
SAN JOSE	
Downtown North to Old Ironsides	10
Downtown South to Santa Teresa	10
SEATTLE	
Downtown Bus Tunnel	2
WASHINGTON, D.C.	
Red Line - Shady Grove to Wheaton	81
Orange Line - New Carrollton to Vienna	
Blue Line - Addison Road to National Airport	
Yellow Line - Gallery Place to Huntington	
Yellow Line - King Street to Van Dorn	
Green Line - Gallery Place to U Street	
Green Line - L'Enfant Plaza to Anacostia	
SUB-TOTAL	431 miles

UNDER CONSTRUCTION

ATLANTA	
East Line - Avondale to Indian Creek	3
BALTIMORE	
Charles Center to Johns Hopkins	2
CHICAGO	
Downtown to Midway Airport	9
DALLAS	
Downtown to Ledbetter Drive	10
DENVER	
North I25/HOV Busway - Central Business District to I25 and 58th Avenue	6
HOUSTON	
Southwest Transitway - Interstate 610 to the Harris County Line	9
North Transitway - North Shephard to FM 960	10
EASTEX - Tidewell Road North to the Will Clayton Parkway	5
LOS ANGELES	
Union Station to Hollywood and Vine and Wilshire and Western	11
MEMPHIS	
Junction of Exchange Avenue and Main Street to Peabody Place	2
MIAMI	
Northern and Southern extensions of People Mover (Miramar Station to Brickell Station)	2
SAN FRANCISCO	
Daly City to Colma Station	1
ST. LOUIS	
East St. Louis to Lambert Airport	18
WASHINGTON, D.C.	
Green Line - Ft. Totten to Greenbelt	8
Yellow Line - Van Dorn to Franconia	3
SUB-TOTAL	99 miles
Grand-Total	530 miles

ACTIVE GRANTS

Mr. CARR. Please update the information that appears on pages 170 and 172 of the 1993 hearing volume concerning active cases and grants awarded and projected.

[The information follows:]

The following two tables indicate, first, the number of grants awarded and projected for FY's 1983–1994 and, secondly, the number of grants that have been managed during FY's 1985–1992 with estimates for FY's 1993 and 1994.

AWARD93
5/18/93

DEPARTMENT OF TRANSPORTATION
FEDERAL TRANSIT ADMINISTRATION
GRANTS AWARDED/PROJECTED FY 1983-1994

FISCAL YEAR	FORMULA GRANTS 5, 9, 9A & 18	DISCRETIONARY GRANTS 3 & 16(b)(2)	INTERSTATE TFR/FAUS TRANSIT GRANTS	TPR 26 (6,8,10,11, & 20)	WMATA 75	ALL OTHER GRANTS	GRAND TOTAL
1983	976	269	57	863	6	18	2,189
1984	1,170	154	32	745	5	1	2,107
1985	1,050	123	39	674	2	0	1,888
1986	1,051	144	24	553	4	1	1,777
1987	686	123	24	375	4	0	1,212
1988	720	166	26	441	2	2	1,357
1989	642	172	21	372	5	2	1,214
1990	612	172	24	366	4	2	1,180
1991	618	173	18	391	3	2	1,205
1992	642	164	15	250	3	0	1,074
1993 EST.	625	170	10	250	3	5	1,063
1994 EST.	625	160	10	250	3	5	1,053

ACTPRO93
5/18/93

DEPARTMENT OF TRANSPORTATION
FEDERAL TRANSIT ADMINISTRATION
PROJECTS MANAGED FY 1985-1994

FISCAL YEAR	FORMULA GRANTS 5, 9, 9A & 18	DISCRETIONARY GRANTS 3 & 16(b)(2)	INTERSTATE TFR/FAUS TRANSIT GRANTS	TPR 26 (6,8,10,11,& 20)	WMATA 75	ALL OTHER GRANTS	GRAND TOTAL
1985	3,458	1,454	197	3,687	5	30	8,831
1986	3,719	1,399	195	3,277	5	29	8,624
1987	3,452	1,299	188	2,318	6	23	7,286
1988	2,707	1,112	175	2,047	6	11	6,058
1989	2,603	976	154	1,727	7	8	5,475
1990	2,511	959	141	1,684	3	22	5,320
1991	2,640	933	129	1,415	7	17	5,141
1992	2,550	892	123	1,258	9	8	4,840
1993 EST.	2,625	900	110	1,250	7	15	4,907
1994 EST.	2,600	900	100	1,250	7	15	4,872

REGIONAL OFFICE POSITIONS

Mr. CARR. Please provide a breakdown of FTA positions by region for fiscal years 1993 and 1994.

[The information follows:]

FTA REGIONAL OFFICE BREAKDOWN OF POSITIONS

	Authorized positions fiscal year—	
	1993	1994
Region I, Cambridge, MA	14	14
Region II, New York, NY	21	21
Region III, Philadelphia, PA	19	19
Region IV, Atlanta, GA	21	21
Region V, Chicago, IL	24	24
Region VI, Fort Worth, TX	16	16
Region VII, Kansas City, MO	13	13
Region VIII, Denver, CO	10	10
Region IX, San Francisco, CA	23	23
Region X, Seattle, WA	10	10
Total field positions	171	171

STAFFING

Mr. CARR. Also please update the table on page 180 of the 1993 hearing volume authorized and on-board staffing by office for fiscal years 1993 and 1994.

	Authorized FTE fiscal year—		Onboard 5–16–93
	1993	1994	
Headquarters Office:			
Administrator	6	6	0
Executive Secretariat	7	7	7
Public Affairs	6	6	5
Chief Counsel	21	20	22
Budget and Policy	60	60	60
Civil Rights	18	17	17
Administration	61	61	62
Technical Assistance & Safety	50	50	53
Grants Management	64	63	71
Interns/Pool	11	5	15
Total Headquarters	304	295	312
Regional Offices:			
Region I, Cambridge, MA	14	14	13
Region II, New York, NY	21	21	19
Region III, Philadelphia, PA	19	19	19
Region IV, Atlanta, GA	21	21	20
Region V, Chicago, IL	24	24	22
Region VI, Fort Worth, TX	16	16	14
Region VII, Kansas City, MO	13	13	11
Region VIII, Denver, CO	10	10	8

	Authorized FTE fiscal year—		Onboard 5-16-93
	1993	1994	
Region IX, San Francisco, CA	23	23	21
Region X, Seattle, WA	10	10	9
Total Regions	171	171	156
Total	475	466	468

INTERSTATE COST TO COMPLETE

Mr. Carr. Please update the information appearing on page 184 of the 1993 hearing volume relating to interstate transfer grants-transit cost to complete. Also provide the unobligated balances for interstate transfer grants similar to the information shown on page 185 of the 1993 hearing volume.

[The information follows:]

INTERSTATE SUBSTITUTE TRANSIT GRANTS - COST TO COMPLETE

STATE	WITHDRAWAL AREA	TRANSIT COST TO COMPLETE AS OF 9/30/92	FY1993 FORMULA APPROPRIATION*	TRANSIT COST TO COMPLETE AS OF 9/30/93
ARIZONA	TUCSON	$0	$0	$0
CALIFORNIA	SACRAMENTO	$329,619	$243,738	$86,036
	SAN FRANCISCO	$7,476,891	$4,969,466	$2,496,714
COLORADO	DENVER	$0	$0	$0
CONNECTICUT	BOLTON TO KILLINGLY	$575,465	$272,737	$300,708
	HARTFORD-NEW BRITAIN	$3,405,142	$2,498,633	$902,960
GEORGIA	ATLANTA	$0	$0	$0
ILLINOIS	CHICAGO	$15,955,128	$14,076,105	$1,864,391
INDIANA	INDIANAPOLIS	$0	$0	$0
IOWA	WATERLOO	$269,270	$133,673	$134,483
MARYLAND	BALTIMORE	$37,490,942	$17,858,740	$19,543,529
	BOWIE TO MILLERSVILLE	$0	$0	$0
	WASHINGTON, DC	$394,000	$235,765	$91,048
MASSACHUSETTS	BOSTON	$2,173,118	$1,031,098	$1,136,844
	FALL RIVER-PROVIDENCE	$0	$0	$0
MINNESOTA	DULUTH	$0	$0	$0
	MINNEAPOLIS-ST. PAUL	$0	$0	$0
NEBRASKA	OMAHA	$0	$0	$0
NEW JERSEY	NEW YORK, NJ	$399,250	$297,768	$100,236
	PHILADELPHIA	$0	$0	$0
NEW YORK	ALBANY	$137,107	$101,885	$35,083
	NEW YORK, NY	$85,369,401	$40,504,901	$44,659,349
OHIO	CLEVELAND	$5,848,083	$2,775,076	$3,059,706
OREGON	PORTLAND	$18,935,675	$14,231,496	$5,675,868
	SALEM	$0	$0	$0
PENNSYLVANIA	PHILADELPHIA	$0	$0	$0
	PITTSBURGH	$0	$0	$0
RHODE ISLAND	PROVIDENCE	$8,099,718	$5,536,086	$2,427,384
TENNESSEE	MEMPHIS	$4,127,717	$3,106,944	$1,015,726
VIRGINIA	WASHINGTON	$0	$0	$0
TOTALS		$190,986,526	$107,874,112	$83,530,064

*$75,000,000 MINUS $375,000 FOR THE SECTION 23 SET-ASIDE PROGRAM PLUS $33,249,112 IN CARRYOVER.

INTERSTATE SUBSTITUTE TRANSIT GRANTS
UNOBLIGATED BALANCES AS OF 3/31/93

WITHDRAWAL AREA	FY 1993 UNOBLIGATED BALANCE
KILLINGLY	$272,737
BOSTON	$1,031,098
PROVIDENCE	$5,536,086
HARTFORD	$800,968
ALBANY	$101,885
NEW YORK, NY	$0
NEW YORK, NJ	$297,768
BALTIMORE	$0
WASHINGTON, D.C.	$235,765
MEMPHIS	$3,106,944
CHICAGO	$14,076,105
DULUTH	$0
WATERLOO	$0
SACRAMENTO	$243,738
SAN FRANCISCO	$4,969,466
PORTLAND	$14,231,496
INTERSTATE SUBSTITUTE TOTAL	$44,904,056

INTERSTATE TRANSFER GRANTS-APPORTIONMENTS

Mr. CARR. Please update the table appearing on page 187 of the 1993 hearing volume dealing with apportionments for interstate transfer grants.

[The information follows:]

INTERSTATE SUBSTITUTE TRANSIT GRANTS COST TO COMPLETE AND FY 1994 ESTIMATED APPORTIONMENT

STATE	WITHDRAWAL AREA	TRANSIT COST TO COMPLETE AS OF 9/30/92	FY1993 FORMULA APPROPRIATION*	TRANSIT COST TO COMPLETE AS OF 9/30/92	FY 1994 FORMULA APPORTIONMENT**
ARIZONA	TUCSON	$0	$0	$0	$0
CALIFORNIA	SACRAMENTO	$329,619	$243,738	$86,036	$46,118
	SAN FRANCISCO	$7,476,891	$4,969,466	$2,496,714	$1,338,325
COLORADO	DENVER	$0	$0	$0	$0
CONNECTICUT	BOLTON TO KILLINGLY	$575,465	$272,737	$300,708	$161,190
	HARTFORD-NEW BRITAIN	$3,405,142	$2,498,633	$902,960	$484,018
GEORGIA	ATLANTA	$0	$0	$0	$0
ILLINOIS	CHICAGO	$15,955,128	$14,076,105	$1,864,391	$999,378
INDIANA	INDIANAPOLIS	$0	$0	$0	$0
IOWA	WATERLOO	$269,270	$133,673	$134,483	$72,088
MARYLAND	BALTIMORE	$37,490,942	$17,858,740	$19,543,529	$10,476,006
	BOWIE TO MILLERSVILLE	$0	$0	$0	$0
	WASHINGTON, DC	$394,000	$235,765	$91,048	$48,805
MASSACHUSETTS	BOSTON	$2,173,118	$1,031,098	$1,136,844	$609,388
	FALL RIVER-PROVIDENCE	$0	$0	$0	$0
MINNESOTA	DULUTH	$0	$0	$0	$0
	MINNEAPOLIS-ST. PAUL	$0	$0	$0	$0
NEBRASKA	OMAHA	$0	$0	$0	$0
NEW JERSEY	NEW YORK, NJ	$399,250	$297,768	$100,236	$53,730
	PHILADELPHIA	$0	$0	$0	$0
NEW YORK	ALBANY	$137,107	$101,885	$35,083	$18,806
	NEW YORK, NY	$85,369,401	$40,504,901	$44,659,349	$23,938,953
OHIO	CLEVELAND	$5,848,083	$2,775,076	$3,059,706	$1,640,108
OREGON	PORTLAND	$18,935,675	$14,231,496	$5,675,868	$3,042,461
	SALEM	$0	$0	$0	$0
PENNSYLVANIA	PHILADELPHIA	$0	$0	$0	$0
	PITTSBURGH	$0	$0	$0	$0
RHODE ISLAND	PROVIDENCE	$8,099,718	$5,536,086	$2,427,384	$1,301,162
TENNESSEE	MEMPHIS	$4,127,717	$3,106,944	$1,015,726	$544,464
VIRGINIA	WASHINGTON	$0	$0	$0	$0
TOTALS		$190,986,526	$107,874,112	$83,530,064	$44,775,000

*$75,000,000 MINUS $375,000 FOR THE SECTION 23 SET-ASIDE PROGRAM PLUS $33,249,112 IN CARRYOVER.

**$45,000,000 MINUS $225,000 FOR THE SECTION 23 SET-ASIDE PROGRAM.

FORMULA RECOVERIES

Mr. CARR. Please provide a table similar to the one on page 190 of the 1993 hearing volume relating to prior year formula recoveries.

[The information follows:]

Fiscal Year 1992 Prior Year Formula Recoveries

Section	Amount (actual)	No. of Projects	Allocation (actual)
Discretionary (Section 3)	$4,981,166.13	11	Lapsed
Formula (Section 5)	1,913,310.19	70	Lapsed to UZA's but available for reapportionment under Section 9
Formula (Sections 9 & 18)	129,120,465.38	406	Available for apportionment/ reapportionment
Research and Training (Sections 6 and 10)	1,153,988.27	13	Available for obligation
Interstate Transfer Grants-Transit	48.00	1	Available for obligation
Total	$137,168,977.97	501	

FORMULA ALLOCATIONS

Mr. CARR. Please provide the fiscal year 1993 grant allocations (both general and trust funds) by city and the estimated allocation of the fiscal year 1994 formula grant funds assumed in the President's 1994 budget request.

[The information follows:]

The fiscal year 1993 Section 9 formula apportionments and the proposed fiscal year 1994 apportionments based on the President's budget are contained in the table below. The fiscal year 1994 proposed amounts to urbanized areas are approximate and will change slightly when more recent Section 15 data is available later this fiscal year to be used in the formula calculation. Also, deobligated funds to be reapportioned in fiscal year 1994 will change the overall dollar amounts available slightly. The apportionments to the areas were not broken out into general and trust funds. Tables are also included showing the Section 18 and Section 16 apportionments by State.

FTA FORMULA GRANTS PROGRAM

FISCAL YEAR 1993 FTA SECTION 9 FORMULA APPORTIONMENTS AND FISCAL YEAR 1994 FTA SECTION 9 BUDGET PROPOSAL

AMOUNTS APPORTIONED TO URBANIZED AREAS OVER 1,000,000 IN POPULATION

URBANIZED AREA	FY 1993 APPORTIONMENT	FY 1994 BUDGET PROPOSAL
Atlanta, GA	$21,430,038	$30,704,592
Baltimore, MD	16,676,643	23,894,158
Boston, MA	44,829,517	64,230,143
Chicago, IL-Northwestern IN	114,384,364	163,886,503
Cincinnati, OH-KY	7,732,901	11,079,783
Cleveland, OH	14,435,556	20,683,305
Dallas-Fort Worth, TX	19,629,479	28,125,386
Denver, CO	11,720,769	16,793,649
Detroit, MI	21,012,359	30,106,770
Ft Lauderdale-Hollywood-Pompano Bch, FL.	10,741,056	15,389,683
Houston, TX	22,140,185	31,722,428
Kansas City, MO-KS	5,756,944	8,248,661
Los Angeles, CA	100,405,981	143,785,297
Miami-Hialeah, FL	19,711,981	28,243,309
Milwaukee, WI	9,709,147	13,911,421
Minneapolis-St. Paul, MN	12,565,057	18,003,290
New Orleans, LA	8,899,093	12,750,630
New York, NY-Northeastern NJ	349,872,854	501,285,169
Norfolk-Virginia Beach-Newport News, VA.	5,916,101	8,476,699
Philadelphia, PA-NJ	66,061,235	94,650,426
Phoenix, AZ	12,199,377	17,479,295
Pittsburgh, PA	19,754,475	28,304,180
Portland-Vancouver, OR-WA	11,599,121	16,619,276
Riverside-San Bernardino, CA	5,344,767	7,658,080
Sacramento, CA	6,866,860	9,838,844
San Antonio, TX	9,709,929	13,912,481
San Diego, CA	19,870,597	28,470,522
San Francisco-Oakland, CA	63,207,644	90,562,112
San Jose, CA	14,669,457	21,018,317
San Juan, PR	7,251,519	10,390,043
Seattle, WA	25,118,560	35,989,432
St. Louis, MO-IL	11,614,619	16,641,589
Tampa-St. Petersburg-Clearwater, FL	8,332,585	11,939,074
Washington, DC-MD-VA	49,607,992	71,076,988
SUBTOTAL	$1,148,778,762	$1,645,871,535

FTA FORMULA GRANTS PROGRAM

FISCAL YEAR 1993 FTA SECTION 9 FORMULA APPORTIONMENTS AND FISCAL YEAR 1994 FTA SECTION 9 BUDGET PROPOSAL

AMOUNTS APPORTIONED TO URBANIZED AREAS 200,000 TO 1,000,000 IN POPULATION

URBANIZED AREA	FY 1993 APPORTIONMENT	FY 1994 BUDGET PROPOSAL
Akron, OH	3,087,356	4,423,636
Albany-Schenectady-Troy, NY	4,227,345	6,057,008
Albuquerque, NM	3,026,556	4,336,518
Allentown-Bethlehem-Easton, PA-NJ	2,377,745	3,406,885
Anchorage, AK	1,348,700	1,932,446
Ann Arbor, MI	2,085,815	2,988,606
Augusta, GA-SC	1,108,458	1,588,223
Austin, TX	6,368,556	9,124,961
Bakersfield, CA	2,016,525	2,889,315
Baton Rouge, LA	1,655,498	2,372,027
Birmingham, AL	3,148,514	4,511,246
Bridgeport-Milford, CT	3,424,530	4,906,632
Buffalo-Niagara Falls, NY	7,394,349	10,594,727
Canton, OH	1,064,091	1,524,656
Charleston, SC	1,626,206	2,330,060
Charlotte, NC	3,238,142	4,639,661
Chattanooga, TN-GA	1,433,837	2,054,427
Colorado Springs, CO	1,937,755	2,776,451
Columbia, SC	1,523,933	2,183,524
Columbus, GA-AL	1,045,760	1,498,388
Columbus, OH	6,425,552	9,206,638
Corpus Christi, TX	2,086,136	2,989,061
Davenport-Rock Island-Moline, IA-IL	1,615,042	2,314,068
Dayton, OH	6,351,079	9,099,798
Daytona Beach, FL	1,189,462	1,704,284
Des Moines, IA	1,593,728	2,283,521
Durham, NC	1,441,777	2,065,812
El Paso, TX-NM	4,346,914	6,228,269
Fayetteville, NC	837,589	1,200,117
Flint, MI	1,780,613	2,551,302
Fort Myers-Cape Coral, FL	1,111,827	1,593,046
Fort Wayne, IN	1,270,261	1,820,063
Fresno, CA	2,925,220	4,191,313
Grand Rapids, MI	2,274,192	3,258,512
Greenville, SC	1,188,016	1,702,217
Harrisburg, PA	1,409,093	2,018,977
Hartford-Middletown, CT	5,057,324	7,246,177
Honolulu, HI	12,153,086	17,412,818
Indianapolis, IN	4,937,239	7,074,166
Jackson, MS	1,125,938	1,613,269
Jacksonville, FL	4,185,432	5,996,959
Knoxville, TN	1,363,691	1,953,928
Lansing-East Lansing, MI	1,826,465	2,616,997
Las Vegas, NV	3,536,274	5,066,817
Lawrence-Haverhill, MA-NH	1,995,602	2,859,277
Lexington-Fayette, KY	1,270,162	1,819,917
Little Rock-North Little Rock, AR	1,504,371	2,155,495
Lorain-Elyria, OH	822,363	1,178,303
Louisville, KY-IN	5,989,469	8,581,807

FTA FORMULA GRANTS PROGRAM

FISCAL YEAR 1993 FTA SECTION 9 FORMULA APPORTIONMENTS AND FISCAL YEAR 1994 FTA SECTION 9 BUDGET PROPOSAL

AMOUNTS APPORTIONED TO URBANIZED AREAS 200,000 TO 1,000,000 IN POPULATION

URBANIZED AREA	FY 1993 APPORTIONMENT	FY 1994 BUDGET PROPOSAL
Madison, WI..............................	2,696,946	$3,864,203
McAllen-Edinburg-Mission, TX............	757,734	1,085,702
Melbourne-Palm Bay, FL..................	1,800,085	2,579,208
Memphis, TN-AR-MS.......................	5,243,251	7,512,609
Mobile, AL..............................	1,422,167	2,037,705
Modesto, CA.............................	1,655,568	2,372,135
Montgomery, AL..........................	891,356	1,277,153
Nashville, TN...........................	3,227,820	4,624,874
New Haven-Meriden, CT...................	5,422,487	7,769,206
Ogden, UT...............................	1,606,325	2,301,575
Oklahoma City, OK.......................	2,836,101	4,063,632
Omaha, NE-IA............................	3,382,792	4,846,942
Orlando, FL.............................	4,582,837	6,566,378
Oxnard-Ventura, CA......................	2,133,149	3,056,424
Pensacola, FL...........................	1,196,640	1,714,574
Peoria, IL..............................	1,302,304	1,865,971
Providence-Pawtucket, RI-MA.............	9,238,322	13,236,522
Provo-Orem, UT..........................	1,423,459	2,039,561
Raleigh, NC.............................	1,477,487	2,116,969
Reno, NV................................	1,885,427	2,701,475
Richmond, VA............................	3,704,216	5,307,465
Rochester, NY...........................	4,583,060	6,566,705
Rockford, IL............................	1,073,087	1,537,543
Salt Lake City, UT......................	7,079,680	10,143,874
Sarasota-Bradenton, FL..................	2,009,759	2,879,630
Scranton-Wilkes-Barre, PA...............	2,043,474	2,927,935
Shreveport, LA..........................	1,465,601	2,099,937
South Bend-Mishawaka, IN-MI.............	1,337,955	1,917,052
Spokane, WA.............................	3,152,252	4,516,609
Springfield, MA-CT......................	3,410,981	4,887,317
Stockton, CA............................	1,765,162	2,529,164
Syracuse, NY............................	3,303,976	4,734,003
Tacoma, WA..............................	5,065,488	7,257,909
Toledo, OH-MI...........................	3,470,692	4,972,883
Trenton, NJ-PA..........................	2,623,017	3,758,254
Tucson, AZ..............................	4,607,418	6,601,570
Tulsa, OK...............................	2,456,041	3,519,066
West Palm Bch-Boca Raton-Delray Bch, FL.	7,083,251	10,148,725
Wichita, KS.............................	1,760,973	2,523,162
Wilmington, DE-NJ-MD-PA.,...............	3,181,397	4,558,334
Worcester, MA-CT........................	1,955,032	2,801,215
Youngstown-Warren, OH...................	1,395,656	1,999,731
SUBTOTAL.............................	$259,464,013	$371,763,226

FTA FORMULA GRANTS PROGRAM

FISCAL YEAR 1993 FTA SECTION 9 FORMULA APPORTIONMENTS AND FISCAL YEAR 1994 FTA SECTION 9 BUDGET PROPOSAL

AMOUNTS APPORTIONED TO STATE GOVERNORS FOR URBANIZED AREAS 50,000 TO 200,000 IN POPULATION

STATE	FY 1993 APPORTIONMENT	FY 1994 BUDGET PROPOSAL
ALABAMA	2,812,472	4,029,518
ALASKA	0	0
ARIZONA	446,614	639,878
ARKANSAS	1,074,574	1,539,578
CALIFORNIA	16,461,608	23,585,073
COLORADO	3,033,189	4,345,748
CONNECTICUT	10,344,175	14,820,434
DELAWARE	228,815	327,831
FLORIDA	6,973,917	9,991,754
GEORGIA	3,053,334	4,374,612
HAWAII	811,573	1,162,766
IDAHO	1,606,180	2,301,226
ILLINOIS	7,480,093	10,716,970
INDIANA	4,291,010	6,147,867
IOWA	2,335,893	3,346,708
KANSAS	1,134,180	1,624,976
KENTUCKY	893,916	1,280,744
LOUISIANA	2,647,293	3,792,860
MAINE	1,152,122	1,650,683
MARYLAND	1,281,267	1,835,711
MASSACHUSETTS	5,074,593	7,270,537
MICHIGAN	4,330,356	6,204,239
MINNESOTA	1,543,211	2,211,009
MISSISSIPPI	1,324,817	1,898,109
MISSOURI	1,825,672	2,615,698
MONTANA	1,215,400	1,741,343
NEBRASKA	1,351,188	1,935,890
NEVADA	0	0
NEW HAMPSHIRE	1,640,745	2,350,747
NEW JERSEY	1,243,132	1,781,076
NEW MEXICO	676,952	969,891
NEW YORK	3,756,063	5,381,430
NORTH CAROLINA	6,097,415	8,735,963
NORTH DAKOTA	1,184,785	1,697,480
OHIO	3,257,527	4,667,167
OKLAHOMA	600,751	860,717
OREGON	2,644,192	3,788,419
PENNSYLVANIA	6,912,316	9,903,500
PUERTO RICO	6,385,710	9,149,014
RHODE ISLAND	406,457	582,343
SOUTH CAROLINA	1,721,163	2,465,965
SOUTH DAKOTA	854,645	1,224,478
TENNESSEE	1,322,628	1,894,971
TEXAS	12,246,951	17,546,599
UTAH	244,777	350,700
VERMONT	429,513	615,378

FTA FORMULA GRANTS PROGRAM

FISCAL YEAR 1993 FTA SECTION 9 FORMULA APPORTIONMENTS AND FISCAL YEAR 1994 FTA SECTION 9 BUDGET PROPOSAL

AMOUNTS APPORTIONED TO STATE GOVERNORS FOR URBANIZED AREAS 50,000 TO 200,000 IN POPULATION

STATE	FY 1993 APPORTIONMENT	FY 1994 BUDGET PROPOSAL
VIRGINIA	2,851,077	4,084,831
WASHINGTON	2,694,352	3,860,284
WEST VIRGINIA	2,070,763	2,966,847
WISCONSIN	5,668,896	8,122,008
WYOMING	593,465	850,276
SUBTOTAL	$150,231,737	$215,241,846
OVER 1,000,000 IN POPULATION	$1,148,778,762	$1,645,871,535
200,000-1,000,000 IN POPULATION	259,464,013	371,763,226
50,000-200,000 IN POPULATION	150,231,737	215,241,846
NATIONAL TOTALS	$1,558,474,512	$2,232,876,607

FISCAL YEAR 1993 FTA SECTION 18 FORMULA APPORTIONMENTS
AND
FISCAL YEAR 1994 FTA SECTION 18 BUDGET PROPOSAL

AMOUNTS APPORTIONED TO THE STATES FOR NONURBANIZED AREAS

STATE	FY 1993 APPORTIONMENT	FY 1994 BUDGET PROPOSAL	STATE	FY 1993 APPORTIONMENT	FY 1994 BUDGET PROPOSAL
ALABAMA	$2,182,659	$3,104,248	NEBRASKA	$883,241	$1,256,174
ALASKA	325,481	462,910	NEVADA	288,365	410,122
AMERICAN SAMOA	46,391	65,979	NEW HAMPSHIRE	763,515	1,085,895
ARIZONA	1,000,993	1,423,645	NEW JERSEY	1,091,664	1,552,600
ARKANSAS	1,744,945	2,481,717	NEW MEXICO	858,213	1,220,579
CALIFORNIA	4,258,842	6,057,062	NEW YORK	3,842,789	5,465,338
COLORADO	909,093	1,292,941	NORTH CAROLINA	4,082,177	5,805,803
CONNECTICUT	824,633	1,172,819	NORTH DAKOTA	432,903	615,689
DELAWARE	205,726	292,590	NORTHERN MARIANAS	42,991	61,143
FLORIDA	2,737,771	3,893,747	OHIO	4,155,940	5,910,711
GEORGIA	3,191,279	4,538,740	OKLAHOMA	1,753,873	2,494,415
GUAM	132,065	187,827	OREGON	1,410,653	2,006,276
HAWAII	358,172	509,404	PENNSYLVANIA	4,635,994	6,593,460
IDAHO	722,602	1,027,708	PUERTO RICO	1,385,381	1,970,333
ILLINOIS	2,904,577	4,130,983	RHODE ISLAND	177,470	252,403
INDIANA	2,828,208	4,022,369	SOUTH CAROLINA	2,043,150	2,905,834
IOWA	1,819,131	2,587,227	SOUTH DAKOTA	527,675	750,477
KANSAS	1,447,061	2,058,057	TENNESSEE	2,637,473	3,751,099
KENTUCKY	2,388,782	3,397,403	TEXAS	5,568,443	7,919,613
LOUISIANA	1,975,696	2,809,898	UTAH	400,007	568,903
MAINE	953,350	1,355,886	VERMONT	471,787	670,991
MARYLAND	1,190,212	1,692,758	VIRGIN ISLANDS	100,978	143,614
MASSACHUSETTS	1,275,546	1,814,122	VIRGINIA	2,338,375	3,325,713
MICHIGAN	3,454,396	4,912,953	WASHINGTON	1,638,470	2,330,285
MINNESOTA	1,987,805	2,827,121	WEST VIRGINIA	1,393,172	1,981,414
MISSISSIPPI	1,939,840	2,758,903	WISCONSIN	2,407,238	3,423,651
MISSOURI	2,315,281	3,292,868	WYOMING	336,679	478,836
MONTANA	585,365	832,525			
TOTAL				$91,374,518	$129,955,781

FISCAL YEAR 1993 FTA SECTION 16 FORMULA APPORTIONMENTS
AND
FISCAL YEAR 1994 FTA SECTION 16 BUDGET PROPOSAL

AMOUNTS APPORTIONED TO STATES

STATE	FY 1993 APPORTIONMENT	FY 1994 BUDGET PROPOSAL	STATE	FY 1993 APPORTIONMENT	FY 1994 BUDGET PROPOSAL
ALABAMA..............	$844,035	$1,022,123	MONTANA..............	$268,783	$306,395
ALASKA...............	167,262	177,729	NEBRASKA.............	397,435	464,910
AMERICAN SAMOA.......	51,664	52,076	NEVADA...............	306,129	350,990
ARIZONA..............	748,998	903,548	NEW HAMPSHIRE........	291,460	332,688
ARKANSAS.............	602,032	720,182	NEW JERSEY...........	1,382,549	1,694,015
CALIFORNIA...........	4,392,269	5,449,179	NEW MEXICO...........	354,455	411,286
COLORADO.............	590,113	705,311	NEW YORK.............	3,149,851	3,899,038
CONNECTICUT..........	670,249	805,295	NORTH CAROLINA.......	1,225,325	1,497,851
DELAWARE.............	231,683	258,106	NORTH DAKOTA.........	234,875	262,088
DISTRICT OF COLUMBIA.	230,267	256,360	NORTHERN MARIANAS....	51,520	51,896
FLORIDA..............	2,977,168	3,683,586	OHIO.................	2,021,747	2,491,528
GEORGIA..............	1,082,347	1,319,460	OKLAHOMA.............	705,104	868,782
GUAM.................	130,535	131,905	OREGON...............	658,401	790,513
HAWAII...............	283,614	322,900	PENNSYLVANIA.........	2,415,856	2,985,269
IDAHO................	289,287	329,978	PUERTO RICO..........	626,680	750,935
ILLINOIS.............	1,938,956	2,388,232	RHODE ISLAND.........	317,337	364,974
INDIANA..............	1,036,716	1,262,527	SOUTH CAROLINA.......	682,925	821,110
IOWA.................	644,144	772,725	SOUTH DAKOTA.........	250,375	281,428
KANSAS...............	546,615	651,039	TENNESSEE............	989,220	1,203,268
KENTUCKY.............	810,590	980,396	TEXAS................	2,493,726	3,080,406
LOUISIANA............	813,081	983,502	UTAH.................	333,095	384,635
MAINE................	351,486	407,579	VERMONT..............	214,054	236,111
MARYLAND.............	816,733	988,059	VIRGIN ISLANDS.......	132,027	133,768
MASSACHUSETTS........	1,158,405	1,414,356	VIRGINIA.............	1,027,439	1,250,953
MICHIGAN.............	1,666,816	2,046,191	WASHINGTON...........	925,674	1,123,983
MINNESOTA............	827,673	1,001,709	WEST VIRGINIA........	510,022	605,383
MISSISSIPPI..........	586,048	700,239	WISCONSIN............	964,210	1,147,109
MISSOURI.............	1,050,767	1,280,059	WYOMING..............	188,177	203,826
				------------	------------
TOTAL				$48,636,000	$58,985,447

SECTION 9 FUNDS FOR AREAS WITHOUT TRANSIT SERVICE

Mr. CARR. Please update the information appearing on pages 199–200 of the 1993 hearing volume concerning the use of Section 9 funding for areas without transit service.

[The information follows:]

For urbanized areas 50,000 to 200,000 in population, FTA Section 9 funds are apportioned to the Governor of each State. These funds are not apportioned to individual urbanized areas but are apportioned to the Governors for use within all urbanized areas between 50,000 to 200,000 in population, as needed . Shown below are urbanized areas without mass transit service which are eligible to receive Section 9.

URBANIZED AREAS (UZA's) WITHOUT CONVENTIONAL MASS TRANSIT SERVICE (BY STATE)

UZA's 50,000 - 200,000 IN POPULATION

STATE	UZA	POPULATION	FY 1993 SECTION 9 FUNDING GENERATED
ARIZONA	YUMA	70,955	446,614
ARKANSAS	FORT SMITH	94,486	403,707
CALIFORNIA	LODI	55,590	420,031
	VACAVILLE	71,535	494,979
FLORIDA	FORT WALTON BEACH	112,522	538,449
	FORT PIERCE	26,342	555,450
	NAPLES	4,344	464,284
	OCALA	8,004	311,875
	PANAMA CITY	103,667	468,037
	PUNTA GORDA	7,033	306,069
	SPRING HILL	2,056	233,972
	STUART	80,069	408,256
	VERO BEACH	4,707	285,174
	WINTER HAVEN	6,427	441,721

STATE	UZA	POPULATION	FY 1993 SECTION 9 FUNDING GENERATED
GEORGIA	BRUNSWICK	50,006	208,657
	WARNER ROBINS	60,927	326,412
ILLINOIS	ROUND LAKE BEACH	112,693	528,944
KANSAS	LAWRENCE	5,755	429,503
LOUISIANA	HOUMA	5,879	271,724
	SLIDELL	4,084	273,362
MISSOURI	JOPLIN	60,208	253,113
NORTH CAROLINA	BURLINGTON	4,053	341,410
	GOLDSBORO	60,230	259,608
	JACKSONVILLE	2,995	464,152
	KANNAPOLIS	8,177	335,071
NORTH DAKOTA	BISMARCK-MANDAN	66,476	341,631
OKLAHOMA	LAWTON	92,634	498,124
PUERTO RICO	CAYEY	53,945	404,190
	HUMACAO	57,144	349,805
SOUTH CAROLINA	ROCK HILL	58,757	265,119
TEXAS	HARLINGEN-SAN BENITO	79,309	395,950
	KILLEEN	137,876	757,361
	LEWISVILLE	79,433	336,500
	LONGVIEW	76,429	331,076
	MIDLAND	91,999	413,130
	ODESSA	13,672	458,296
	TEXARKANA	65,086	196,999
	TEXAS CITY	128,211	523,642
	VICTORIA	55,122	283,875
WYOMING	CHEYENNE	61,890	321,228
UZA OVER 200,000 IN POPULATION			
TEXAS	MCALLEN	263,192	757,734

OBLIGATION RATES OF EARMARKED FUNDS

Mr. CARR. By fiscal year and category (rail, rail modernization, and bus) provide obligation rates for earmarked projects. Compare the average obligation rate for earmarked projects with the account average excluding earmarks.

[The information follows:]

FY 1992 section 3 bus:	
Available earmarks (FY 92 and prior)	$185.6m.
Obligated in FY 92	$70.9m (39 percent of earmarks).
Administrator's allocations	$157.3m.
Obligated in FY 92	$140.8m (90 percent of allocations).
FY 1992 section 3 fixed guideway:	
Allocations (FY 92 and prior)	$642.9m.
Obligated in FY 92	$453.7m (71 percent of allocations).
FY 1992 section 3 new start:	
Earmarks (FY 92 and prior)	$935.8m.
Obligated in FY 92	$311.7m (33 percent of earmarks).

FLEXIBLE FUNDS

Mr. CARR. Please provide a breakdown of the fiscal years 1993 and 1994 funding that can be used for either highway or transit projects.

[The information follows:]

AUTHORIZATIONS

[In millions]

	1993	1994
Highway:		
Interstate Substitute Program	$240.00	$240.00
Interstate Maintenance Program	583.00	583.00
National Highway System	3,599.00	3,599.00
Surface Transportation Program	4,096.00	4,096.00
Congestion Mitigation and Air Quality Improvement Program	1,028.00	1,028.00
Bridge Program	1,105.00	1,105.00
Donor State Bonus Amount	514.00	514.00
Hold Harmless	606.60	606.60
90 Percent of Payment Adjustments	83.00	83.00
Additional Allocation—Wisconsin	47.80	47.80
Minimum Allocation	803.40	803.40
Total	12,705.80	12,705.80
Transit: Section 9 Formula Program (Capital only for areas above 200,000 in population)	[1] $745.90	[2] $1,355.40

[1] FY 1993 apportionments.

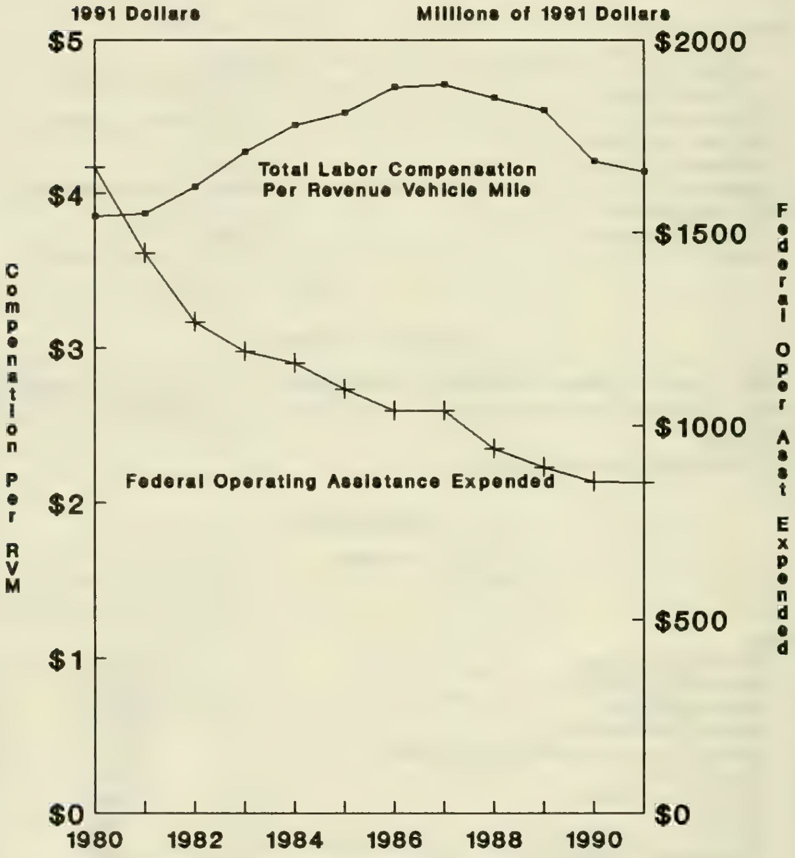
[2] FY 1994 budget proposal.

LABOR COMPENSATION AND OPERATING ASSISTANCE

Mr. CARR. Please update the chart on average real labor compensation and real federal operating assistance expended that appears on page 91 of the 1993 hearing volume.

[The information follows:]

Average Real Labor Compensation and Real Federal Operating Assistance Expended, 1980 to 1991



SOURCE: FTA Staff Analysis of Section 15 Data
NOTE: Compensation Per RVM includes only directly operated service, and because Commuter Rail data is not available for 1980-84, does not include Commuter Rail.

DISTRIBUTION OF CAPITAL FUNDING

Mr. **Carr**. Please update the chart appearing on page 98 of the 1993 hearing volume relating to the distribution of Federal Transit Administration capital funding.

[The information follows:]

FTA CAPITAL FUNDS—FY 1986–93—SECTION 3, 9, 9A, AND 5

[In millions of dollars]

Program	Fiscal year—							
	1986	1987	1988	1989	1990	1991	1992	1993 (est.)
Bus capital	935.5	768.7	820.0	716.3	760.9	745.1	827.4	1,120.0
Fixed guideway modernization	832.4	927.5	1,074.4	986.4	998.9	972.8	948.1	962.2
New systems	600.4	282.1	538.2	372.1	603.7	330.0	329.1	917.0
Total	2,368.3	1,978.3	2,432.6	2,074.8	2,363.5	2,047.9	2,104.6	2,999.2

ISTEA NEW START EARMARKS

Mr. **Carr**. Please update the fiscal year 1993 new start allocations and fiscal year 1994 earmarks contained in ISTEA.

[The information follows:]

NEW STARTS
[$ in millions]

Project Status, Location and Description	FY1992 Appropriated Earmarks	FY 1993 Appropriated Earmarks	6 Year Authorization Earmarks	AUTHORIZATION by FY1992 - FY1997 —— FY1992	FY1993	FY1994	FY1995	FY1996	FY1997
CONSTRUCTION									
DALLAS South Oak Cliff LRT (DART)	40.00	42.20	160.00	0.00					
LOS ANGELES: MOS-2 (LACTC)	135.00	49.60	0.00	0.00					
MIAMI. People Mover Extension (Dade County)	11.00	5.40	0.00	0.00					
ST.LOUIS: Light Rail Project (Bi-State)	31.00	39.30	0.00	0.00					
FINAL DESIGN									
ATLANTA: North Line extension (MARTA)	20.00	29.80	329.00	0.00					
JACKSONVILLE. Automated Skyway Express (JTA)	10.00	9.90	71.20	0.00					
LOS ANGELES: MetroRail MOS-3 (LACTC)	0.00	59.70	695.00	0.00					
NEW YORK: Queens Local Express Connection (MTA)	11.00	15.80	306.00	11.00	18.70	77.80	76.80	121.80	
PORTLAND Westside LRT to 185th (Tri-Met)	26.00	67.50	515.00	0.00					
SAN FRANCISCO: Colma/Tasman/(BART - Santa Clara) *	55.00	44.70	512.75	112.75	100.00	100.00	100.00	100.00	
* includes $12.75 M for Tasman PE									
PRELIMINARY ENGINEERING									
BALTIMORE: LRT extension to Hunt Valley (MTA)	5.00	24.80	60.00	0.00	30.00	30.00			
CHICAGO Central Area Circulator (City of Chicago)	21.00	21.10	260.00	21.00	55.00	70.00	62.00	26.00	26.00
HONOLULU: Fixed guideway system (City of Honolulu)	40.00	75.90	618.00	0.00					
SALT LAKE CITY South LRT (UTA)	5.00	3.00	131.00	0.00					
ALTERNATIVES ANALYSIS									
BOSTON: South Boston Piers Transitway (MBTA)	21.00	38.00	278.00	0.00					
CLEVELAND: Dual Hub Corridor (GCRTA)	1.00	1.50	5.00	2.00	2.00	1.00			
HOUSTON Priority Corridor Fixed Guideway (MTA)	30.00	33.70	500.00	0.00					
PITTSBURGH: Stage II Light Rail Rehabilitation (PAT)	0.00	0.00	5.00	0.00					
PITTSBURGH: Allegheny County's Busways (PAT)	15.00	16.90	0.00						
SAN DIEGO: Mid-Coast Corridor transit improvements (MTDB)	1.00	1.70	27.00	2.00	5.00	20.00			
ST.LOUIS: Light Rail Project Extension (Bi-State)	4.00	2.50	0.00	0.00					
SYSTEM PLANNING									
ATLANTA: Commuter Rail Study	0.00	0.00	0.10	0.00					
ATLANTA: Buckhead people mover (ARC)	0.00	0.00	0.20	0.20					
ALTOONA: 14th Street pedestrian crossing	0.00	0.00	3.20	0.00					
BOSTON. North Station- South Station Rail Link	0.00	0.00	0.25	0.25					
BOSTON Portland Commuter Rail	0.00	25.30	30.00	0.00					
CHATTANOOGA: Trolley Circulator (CARTA)	0.00	0.00	2.00	1.00	1.00				
CHARLOTTE: Priority Corridor (City of Charlotte)	0.00	0.00	0.50	0.13	0.38				
CLEVELAND Blue Line extension to Highland Hills (GCRTA)	0.00	0.00	1.20	0.00					
DALLAS: Railtran Commuter Rail (Cities of D/FW)	0.00	0.00	5.68	2.48	3.20				
DETROIT: LRT project (City of Detroit)	0.00	0.00	20.00	10.00	10.00				
KANSAS CITY: Phase I LRT project (KCATA)	1.00	0.00	5.90	1.50	4.40				
LAKEWOOD-FREEHOLD (NJ). Commuter Rail (NJTC)	0.00	3.00	7.80	1.80	3.00	3.00			
LARGO, MD: Transit improvements (MD) MDOT)	0.00	0.00	5.00	0.00	5.00				
LOS ANGELES: Multimodal Transit Parkway (CalTrans)	0.00	0.00	15.00	0.00					
LOS ANGELES-SAN DIEGO Commuter Rail (LOSSAN)	0.00	0.00	20.00	10.00	5.00	5.00			
LONG BEACH: Metro Link project (LACTC)	0.00	0.00	4.00	0.00					
MARYLAND: MARC Extensions (MTA)	0.00	9.90	160.00	0.00	60.00	50.00	50.00		
MILWAUKEE. East-West Corridor	0.00	0.00	200.00	0.00					
NEW ORLEANS: Canal Street Corridor LRT (NORTA)	0.00	0.00	4.80	0.00					
NEW YORK: Improv. for Staten Island-Midtown Ferry (NYDOT)	0.00	0.00	12.00	1.00	11.00				
NORTHERN NEW JERSEY: Urban Core Project	70.00	64.90	634.40	95.90	71.70	64.80	146.00	256.00	
NORTHERN NEW JERSEY Hawthorne-Warwick Commuter Rail (NJTC)	0.00	4.50	46.87	35.71	11.16				
NORTHERN VIRGINIA: Dulles Corridor rail project (VDOT)	0.00	0.00	6.00	0.00					
NORTHEAST OHIO: Commuter Rail (NOACA)	0.00	0.00	1.60	0.80	0.80				
ORLANDO: Downtown Trolley (OSCAR) (City of Orlando)	1.00	2.00	5.00	0.00					
PHILADELPHIA: Cross-County transit improvements (SEPTA)	1.00	0.70	2.40	0.00					
PHILADELPHIA: NE Commuter Rail Study (SEPTA)	0.00	0.00	0.40	0.00					
SACRAMENTO: LRT Extensions (Sacramento RTD)	0.00	1.00	26.00	0.00					
SAN JOSE-GILROY (CA): Commuter Rail	0.00	0.00	21.00	8.00					13.00
SEATTLE: Puget Sound Core Rapid Transit Project (Metro)	0.00	0.00	300.00	0.00					
SEATTLE: Commuter rail line to Tacoma (Seattle)	10.00	15.20	25.00	0.00					
VALLEJO, CA Cap improv. for North Bay Ferry (City of Vallejo)	0.00	0.00	17.00	8.00	9.00				
TRI COUNTY CRA (Florida)	0.00	4.60							
ST. LOUIS (Cross County)	0.00	0.50							
MIAMI (Urban Initiatives)	0.00	2.20							
TOTAL	$565.00	$716.80	$6,056.25	$325.52	$406.33	$421.60	$434.80	$503.80	$39.00

UNOBLIGATED NEW START FUNDS

Mr. CARR. Please provide a list by city showing unobligated new start funds by fiscal year similar to the data appearing on page 113 of the 1993 hearing volume.

[The information follows:]

NEW STARTS

Unobligated Balances

by Year and City

AREA	DESCRIPTION	FY 93	FY 92	FY 91	FY 90 & PRIOR YEAR	TOTAL
New Jersey	Urban Core Project	$64,939,275	$95,900,000	$0	$0	$160,839,275
Los Angeles	Metrorail MOS-2/MOS-3	49,625,000	59,550,000	0	0	109,175,000
Dallas	South Oak Cliff Light Rail	42,181,250	20,480,000	19,900,000	0	82,561,250
Honolulu	Rapid Transit Starter Line	75,926,250	0	0	0	75,926,250
Portland	Westside LRT	67,490,000	0	0	0	67,490,000
San Francisco	TASMAN extension/final design	26,010,000	21,990,000	0	0	48,000,000
San Francisco	BART-COLMA Extension	0	41,917,420	0	0	41,917,420
Baltimore	Extension to Central LRT line	24,812,500	2,560,000	4,975,000	9,334,590	41,682,090
Chicago	Central Area Circulator	21,090,625	19,191,002	0	0	40,281,627
New Jersey	Hawthorne Warwick Commuter Rail	4,466,250	34,203,000	0	0	38,669,250
Boston	South Boston Piers Transitway	37,963,125	0	0	0	37,963,125
Atlanta	North Line Extension for MARTA	29,775,000	0	0	0	29,775,000
Portland-Boston	Commuter rail upgrade	25,308,750	0	0	0	25,308,750
Miami	Downtown Circulator Extentions	5,393,245	5,630,000	11,940,000	2,118,350	25,081,595
San Francisco	BART Airport Extension	0	22,500,000	0	0	22,500,000
Seattle	Commuter rail line to Tacoma	15,185,250	5,120,000	0	0	20,305,250
San Francisco	Unallocated by MTC	18,652,500	0	0	0	18,652,500
NJ Transit	Hudson waterfront	0	0	17,570,440	0	17,570,440
New York	Queens Connection ROW	15,775,788	0	0	0	15,775,788
Jacksonville	ASE Peoplemover Extension	9,925,000	5,120,000	1	0	15,045,001
Portland	Joint Development Banfield	0	0	0	13,408,620	13,408,620
Los Angeles	3 grade separation projects	0	10,000,000	0	0	10,000,000
Detroit	LRT Project	0	10,000,000	0	0	10,000,000
Cleveland	Dual Hub Corridor	1,488,750	2,000,000	4,975,000	484,030	8,947,780
St. Louis	METROLINK	8,481,625	0	0	0	8,481,625
San Jose	Commuter rail from San Jose to Gilroy	0	8,000,000	0	0	8,000,000
Vallejo	North Bay Ferry	0	8,000,000	0	0	8,000,000
Ft. Lauderdale	Tri-Rail project	4,639,938	0	0	0	4,639,938
San Diego	Mid Coast Extension Preliminary Exten.	1,687,250	2,000,000	398,000	0	4,085,250
New Jersey	Lakewood-Freehold Commuter Rail	2,977,500	0	0	0	2,977,500
Orlando	Downtown Trolley	1,985,000	510,000	0	0	2,495,000
Dallas	Dallas Railtran Commuter	0	2,480,000	0	0	2,480,000
Miami	Urban Initiative	2,154,718	0	0	0	2,154,718
Salt Lake City	I-15 Light Rail ROW	0	1,953,530	0	0	1,953,530
Philadelphia	Cross County Transit	694,750	510,000	0	0	1,204,750
Kansas City	PE for Phase I LRT Project	0	1,132,000	0	0	1,132,000
Staten Island	Staten Island Midtown Ferry	0	1,000,000	0	0	1,000,000
Chattanooga	Trolley Circulator	0	1,000,000	0	0	1,000,000
Sacramento	Sacramento LTR Extension	992,500	0	0	0	992,500
Buffalo	Naval Park Station	0	0	0	808,935	808,935
Houston	Regional Better Bus Alternative	175,975	0	0	0	175,975
	TOTALS	$559,797,814	$382,746,952	$59,758,441	$26,154,525	$1,028,457,732

NEW STARTS STATUS TABLE

Mr. CARR. Please provide a table similar to the one appearing on pages 122–123 of the 1993 hearing volume relating to the status of all projects either funded in fiscal year 1993 or earmarked for funding in ISTEA for fiscal year 1994.

[The information follows:]

NEW SYSTEM PROJECTS RECEIVING FY 1993 APPROPRIATION EARMARKS
(cost in millions of dollars)

City and Project	Total Cost	Section 3 Share	Prior Earmarks	Fiscal Year 1993 Earmarks	Potential Remaining Section 3 Cost	Fiscal Year 1994 Earmarks in ISTEA
Under Construction						
Dallas (South Oak Cliff)	360	160	40.4	42.2	77.4	
Los Angeles (MOS-2)	1446	667	548.1	49.6	69.3	
Miami (DPM Extensions)	248	186	181.0	5.4	0	
St. Louis (Airport LRT)	458	343	287.6	39.3	15.8	
Final Design						
Atlanta (North Line)	483	385	92.2	29.8	262.8	
Jacksonville (So.DPM Extension)	134	107	5.1	9.9	92.0	
Los Angeles (Mid City)	491	243	0	19.9	223.1	
Los Angeles (No. Hollywood)	1450	695	0	19.9	675.1	
New York (Queens)	645	322	11.0	15.8	295.2	77.8
Portland (LRT to 185th)	688	516	14.3	67.5	434.2	
San Francisco (Colma)**	171	124	124.0	0	0	
Preliminary Engineering						
Baltimore (LRT Extensions)*	102	80	18.9	24.8	36.3	30.0
Chicago (Central Circulator)	750	250	36.3	21.1	192.6	70.0
Honolulu	2300	618	36.4	75.9	505.7	
Houston (Regional Bus Program)	1250	625	161.4	33.7	429.9	
Pittsburgh (Airport Busway)*	250	76	7.7	16.9	51.5	
Salt Lake City	230	131	18.0	3.0	109.9	
San Francisco (Airport)**	960	591	0	0	591.0	
San Jose (Tasman)**	480	240	56.9	44.7	138.2	100.0
Alternatives Analysis						
Boston (South Piers)	700	560	10.8	38.0	511.2	
Cleveland (Dual Hub)	600	300	9.0	1.5	289.5	1.0
Los Angeles (East)	1800	900	0	19.9	880.1	
Maine (Portland-Boston)	50	30	0	25.3	4.7	
Orlando (OSCAR)	50	25	0.5	2.0	22.5	
Sacramento	200	100	0	1.0	99.0	
St. Louis (St. Charles)	400	320	0	0.5	319.5	
St. Louis (St. Clair)	400	320	6.6	2.0	311.4	
San Diego (Mid Coast Corridor)	350	280	2.4	1.7	275.9	20.0
System Planning and other						
Los Angeles/San Diego (LOSSAN)	na	na	10.0	0	na	5.0
Maryland (MARC Extenstions)	na	na	0	9.9	na	50.0
Miami (Urban Initiative)	na	na	0	2.2	na	
New Jersey (Lakewood-Freehold)	na	na	1.8	3.0	na	3.0
No. New Jersey (Urban Core)*	na	na	95.9	64.9	na	64.8
No. New Jersey (Hawthorne-Warwick)	na	na	35.7	4.5	na	
Philadelphia (Cross County)	na	na	0.5	0.7	na	
Seattle (Tacoma Commuter Rail)	200	25	5.1	15.2	4.7	
St. Louis (Cross County)	na	na	0	0.5	na	
Tri-County, FL	na	na	0	4.6	na	
TOTALS	17,646	9,194	1,807.6	716.8	6,918.5	421.6

* Indicates a project for which the grantee has yet to decide upon the allocation of the respective city's earmarks between various projects.

** This earmark is for a three part San Francisco BART project: Colma/Tasman/Airport.

AVERAGE AGE OF BUS FLEET

Mr. Carr. Please update the information appearing on page 96 of the 1993 hearing volume concerning the average age of the bus fleet. Also update the information appearing on page 203 dealing with analysis of the bus fleet.

[The information follows:]

Overall, bus fleet age continues to improve. In 1991, the average age of the total fleet (not including other inactive vehicles) was 7.9 years compared to 9.4 years in 1981.

The following table displays the reported average fleet age of large buses from reported Section 15 data:

Large motor buses

Year:	
1981	9.4
1982	9.4
1983	9.3
1984	8.1
1985	9.0
1986	8.3
1987	8.2
1988	8.2
1989	8.4
1990	8.2
1991	7.9

AGE OF BUS FLEET—NUMBER OF BUSES

Bus mode	1987	1988	1989
16 plus years	4,676	4,700	5,429
11 to 15 years	11,905	11,413	9,475
6 to 10 years	16,974	18,354	18,900
0 to 5 years	22,598	21,971	21,388
Total	56,153	56,438	55,192

For 1990 and subsequent years, the Section 15 data on age of bus fleet is being presented in six separate age categories rather than the previous four groups. The data for 1990 and 1991 follows:

	1990	1991
25 plus years	217	301
21 to 25 years	1,146	1,142
16 to 20 years	3,524	3,179
12 to 15 years	9,524	5,773
6 to 11 years	19,782	21,513
5 years or less	20,260	18,380
Total	54,453	50,288

BUS CAPITAL GRANTS

Mr. Carr. Please update the information shown on page 203 concerning the fiscal year 1992 use of bus capital funds by discretionary funds.

[The information follows:]

FISCAL YEAR 1992 BUS CAPITAL USE OF DISCRETIONARY AND FORMULA FUNDS

[In millions of dollars]

Bus category	Section 3	Section 9	Total
Bus purchases	$94.8	$280.8	$375.6
Bus facilities	101.5	60.2	161.7
Bus other	15.3	274.8	290.1
Bus total	211.6	615.8	827.4

BUS OBLIGATIONS

Mr. CARR. Please indicate the amount obligated for bus purchases during fiscal year 1992 and the number of full size buses purchased. Also provide similar data for bus rehabilitation including the average life extensions of the rehabilitated buses.

[The information follows:]

During fiscal year 1992, FTA obligated approximately $210 million for 1,204 standard size buses and 5 articulated buses under Section 9. Under the Section 3 bus program, approximately $783 million was obligated for 490 standard size buses.

FTA financed the rehabilitation of 111 full size buses at an approximate Federal share of $8.5 million. It is expected that these vehicles will have an average life extension of at least five years.

BUS PROCUREMENT GRANTS

Mr. CARR. Please provide the section 3 bus procurement grants awarded during the past year valued at $500,000 or more.

[The information follows:]

The following were awarded in Fiscal Year 1992:

City / Grantee	Description	Amount
Hartford, CT DOT	19 (40 ft.) buses	3,200,000
Springfield, PVTA	15 (30 ft.) buses 10 (35 ft.) buses 10 (40 ft.) buses	5,000,000
Buffalo, NFTA	42 (40 ft.) repl buses	7,343,740
Rochester, RGRTA	16 (40 ft.) repl. buses	2,500,000
Altoona, SEPTA	11 (30 ft.) buses	2,000,000
Johnsonburg, ATA	16 (30 ft.) buses	2,223,440
Maryland, MTA	17 (30 ft.) buses 12 (40 ft.) buses	2,025,000
Maryland, MTA	66 buses/ fleet replacement	11,417,560
Pennsylvania, BARTA	30 (30 ft.) buses	1,500,000
Pennsylvania, BARTA	Consolidated bus purchase	5,000,000
Birmingham, AL	12 (40 ft. buses)	2,899,200
N. Carolina, NCDOT	28 std. buses 33 med. buses / 26 vans	3,095,752
Lakeland, LAMTD	13 (30 ft.) buses	1,774,800
Detroit, SMART	58 repl. buses	3,218,817
Chicago, PACE	9 (40 ft.) buses / 10 vans	1,700,000
Cincinnati, TANK	22 (35 ft.) buses 10 (40 ft.) buses	3,800,000
Canton, RTA	10 (30 ft.) buses	1,575,000
Austin, TXDOT	30 CNG buses	3,079,820
Iowa, IDOT	117 buses/44 rehab	6,684,450
Kansas City, KCATA	24 std. buses	4,400,000
Lincoln, CITY	6 AFI buses	1,256,063
Tucson, CITY	6 small AFI buses	1,163,400
Montana, MT DOT	8 small buses / 12 vans	581,524
Fort Collins, CITY	9 std. buses	1,152,000
Park City, MUN CORP	7 std. buses	1,136,800
Los Angeles, LACTC	29 (40 ft.) buses	4,845,000
Davis, UNITRANS	16 (35/40 ft.) buses	3,200,000
Bellingham, WTA	12 (40 ft.) / 15 (35 ft.) buses	3,705,000
Portland, TRI-MET	8 (40 ft.) buses	7,408,800
	TOTAL:	***$ 98,886,166***

CAPITAL OBLIGATIONS FOR OLD RAIL CITIES

Mr. CARR. Please update the information appearing on page 207 of the 1993 hearing volume concerning obligations for old rail cities.

[The information follows:]

Capital Obligations for Old Rail Cities
(In Millions of Dollars)

	1988	1989	1990	1991	1992	1993* (est.)	1994** (est.)
Boston							
Section 3	51.3	16.6	71.5	32.1	21.1	125.8	53.6
Section 9	32.2	28.9	27.6	32.4	59.2	29.8	N/A
Total	83.5	45.5	99.1	64.5	80.3	155.6	53.6
Chicago							
Section 3	152.4	91.8	51.6	108.6	100.3	130.1	108.2
Section 9	99.3	77.1	78.5	86.2	97.0	61.7	N/A
Total	251.7	168.9	130.1	194.8	197.3	191.8	108.2
Cleveland							
Section 3	23.8	0.0	30.0	23.6	10.7	20.7	10.8
Section 9	8.3	6.7	7.1	8.2	15.6	5.7	N/A
Total	32.1	6.7	37.1	31.8	26.3	26.4	10.8
New Jersey							
Section 3	10.0	96.6	43.7	68.3	6.0	376.5	66.9
Section 9	65.1	58.9	58.6	54.8	68.2	77.8	N/A
Total	75.1	155.5	102.3	123.1	74.2	454.3	66.9
New York							
Section 3	20.4	294.2	182.6	164.1	228.8	251.0	266.2
Section 9	453.9	219.9	220.7	248.5	311.3	175.4	N/A
Total	474.3	514.1	403.3	412.6	540.1	426.4	266.2
Philadelphia							
Section 3	59.9	109.8	53.6	77.8	53.0	81.3	76.9
Section 9	41.6	34.0	44.5	48.1	46.2	35.5	N/A
Total	101.5	143.8	98.1	125.9	99.2	116.8	76.9
Pittsburgh							
Section 3	0.0	10.0	9.0	0.0	14.0	66.4	15.7
Section 9	13.4	13.4	12.7	13.9	14.3	10.2	N/A
Total	13.4	23.4	21.7	13.9	28.3	76.6	15.7
San Francisco							
Section 3	37.0	46.3	24.5	56.0	100.7	110.2	49.6
Section 9	54.5	44.4	43.4	33.7	55.5	64.6	N/A
Total	91.5	90.7	67.9	89.7	156.2	174.8	49.6
All Old Rail Cities							
Section 3	354.8	665.3	466.5	530.5	534.6	1,162.0	647.9
Section 9	768.3	483.3	493.1	525.8	667.3	460.7	0
Total	1,123.1	1,148.6	959.6	1,056.3	1,201.9	1,622.7	647.9

*Estimated Section 3 obligations in FY 1993 are based on the Annual Apportionments and Earmarks.

**FY 1994 estimates are based on the proposed budget for Fixed Guideway Modernization.

RAIL RIDERSHIP PROJECTIONS

Mr. **Carr**. Please provide for the record your most recent rail ridership statistics.

[The information follows:]

Our most recent data on rail ridership is from Section 15 for 1990, Numbers of Unlinked Trips in Thousands:

Automated Guideway:	
Miami Metromover	32.0
Seattle Monorail	20.0
Jacksonville	3.0
Cable Car:	
San Francisco	106.0
Commuter Rail:	
Long Island Railroad	905.0
MetroNorth Commuter Railroad	573.0
New Jersey Transit	490.0
Chicago Commuter Rail Board	310.0
Philadelphia-SEPTA	241.0
Chicago & Northwestern	216.0
Boston-MBTA (Amtrak)	198.0
Chicago-Burlington North	116.0
Staten Island Rapid Transit	60.0
Caltrain-San Francisco	54.0
Maryland MARC	40.0
Northern Indiana Commuter Tr Distr	27.0
Tri-County Commuter Rail Authority	10.0
Caltrans-Los Angeles	3.0
Inclined Plane:	
Pittsburgh-Port Authority Transit	15.0
Chattanooga Area RTA	40.0
Rapid Rail:	
New York City TA	13,254.0
Washington, DC-WMATA	1,882.0
Boston-MBTA	1,722.0
Chicago-CTA	1,476.0
Philadelphia-SEPTA	853.0
San Francisco-BART	761.0
Atlanta-MARTA	671.0
New York-PATH	601.0
Miami-Dade County TA	139.0
Baltimore-MTA	128.0
Pittsburgh-Port Authority Transit	114.0
Cleveland RTA	64.0
Light Rail:	
Philadelphia-SEPTA	424.0
San Francisco-MUNI	400.0
Boston-MBTA	227.0
San Diego Trolley	180.0
Pittsburgh-Port Authority Transit	99.0
Buffalo-Niagara Frontier Tr Auth	81.0
New Orleans RTA	82.0
Portland-Tri County MTD	69.0
Sacramento RTD	66.0
Cleveland RTA	55.0
New Jersey Transit	32.0
Santa Clara County TD	24.0
Seattle Metro	2.0
Galveston Island Transit	65.0

FIXED GUIDEWAY MODERNIZATION OBLIGATIONS

Mr. Carr. Please update the information on fixed guideway modernization obligations similar to the data shown on page 210 of the 1993 hearing volume.

[The information follows:]

SECTION 3—FIXED GUIDEWAY MODERNIZATION

[In millions of dollars]

	1986	1987	1988	1989	1990	1991	1992	[1] 1993
Urbanized area:								
Boston	69.6	13.1	51.4	16.6	71.4	32.0	0	0
New York	122.8	120.2	20.4	200.1	179.1	160.0	209.0	236.6
SW Connecticut	0	27.0	0	91.7	23.4	22.7	28.1	17.0
NE New Jersey	36.7	46.3	0	96.6	40.2	40.0	0	100.6
Philadelphia	91.9	52.5	75.5	86.8	53.6	77.8	53.0	0
Pittsburgh	0	3.6	0	0	4.0	0	5.0	18.8
Chicago	66.7	34.1	152.4	82.3	65.2	111.3	80.9	89.9
Cleveland	11.3	0	16.2	0	19.6	6.8	9.9	10.3
San Francisco	47.0	22.0	35.0	18.2	21.0	44.3	30.7	0
Others	33.0	0	15.2	14.7	14.0	11.3	33.7	13.0
Unobligated	0	0	0	0	0	0	0	364.3
Total	479.0	318.8	366.1	607.0	491.5	506.2	450.3	850.5

[1] Includes obligations through April 30, 1993.

PROPOSED SECTION 18 APPORTIONMENT FOR FISCAL YEAR 1994

Mr. Carr. Provide a state-by-state breakdown of the funding requested for Section 18 non-urbanized formula grant program similar to the date contained on page 212 of the 1993 hearing volume.

[The information follows:]

FTA SECTION 18

PROPOSED FISCAL YEAR 1994 APPORTIONMENTS

TO THE STATES FOR NONURBANIZED AREAS

STATE	SECTION 18 APPORTIONMENT	STATE	SECTION 18 APPORTIONMENT
ALABAMA	$3,104,248	NEBRASKA	1,256,174
ALASKA	462,910	NEVADA	410,122
AMERICAN SAMOA	65,979	NEW HAMPSHIRE	1,085,895
ARIZONA	1,423,645	NEW JERSEY	1,552,600
ARKANSAS	2,481,717	NEW MEXICO	1,220,579
CALIFORNIA	6,057,062	NEW YORK	5,465,338
COLORADO	1,292,941	NORTH CAROLINA	5,805,803
CONNECTICUT	1,172,819	NORTH DAKOTA	615,689
DELAWARE	292,590	NORTHERN MARIANAS	61,143
FLORIDA	3,893,747	OHIO	5,910,711
GEORGIA	4,538,740	OKLAHOMA	2,494,415
GUAM	187,827	OREGON	2,006,276
HAWAII	509,404	PENNSYLVANIA	6,593,460
IDAHO	1,027,708	PUERTO RICO	1,970,333
ILLINOIS	4,130,983	RHODE ISLAND	252,403
INDIANA	4,022,369	SOUTH CAROLINA	2,905,834
IOWA	2,587,227	SOUTH DAKOTA	750,477
KANSAS	2,058,057	TENNESSEE	3,751,099
KENTUCKY	3,397,403	TEXAS	7,919,613
LOUISIANA	2,809,898	UTAH	568,903
MAINE	1,355,886	VERMONT	670,991
MARYLAND	1,692,758	VIRGIN ISLANDS	143,614
MASSACHUSETTS	1,814,122	VIRGINIA	3,325,713
MICHIGAN	4,912,953	WASHINGTON	2,330,285
MINNESOTA	2,827,121	WEST VIRGINIA	1,981,414
MISSISSIPPI	2,758,903	WISCONSIN	3,423,651
MISSOURI	3,292,868	WYOMING	478,836
MONTANA	832,525		
TOTAL			$129,955,781

BUS FUNDING FOR RURAL AREAS

Mr. CARR. Please update the table shown on page 213 of the 1993 hearing volume relating to bus funding for rural areas.

[The information follows:]

SECTION 3 BUS FUNDS RURAL OBLIGATIONS

[Dollars in millions]

	Section 3 bus appropriation	Section 3 rural obligation	Percentage
Fiscal year:			
1992	$276.4	$17.3	6.3
1991	218.9	33.3	15.2
1990	131.4	14.7	11.2
1989	143.3	12.3	8.6
1988	144.8	13.0	9.0

METROPOLITAN PLANNING ORGANIZATION FUNDING

Mr. CARR. Please provide a state-by-state breakdown of the funding included in the fiscal year 1993 program and the fiscal year 1994 request for metropolitan planning organizations, similar to the information contained on page 221 of the 1993 hearing volume.

[The information follows].

Funding to States for Distribution to Metropolitan Planning Organizations Under Section 8 of the Federal Transit Act

State	FY 1991 SEC8 UZA MARK (HOLD HARMLESS LEVEL)	FY 1993 FINAL ALLOCATION BASED ON $38,250,000 TOTAL FOR MPOs STATEWIDE	FY 1994 FINAL ALLOCATION BASED ON $59,400,000 TOTAL FOR MPOs STATEWIDE
Alabama	$316,205	$331,483	$520,281
Alaska	$20,400	$153,000	$237,600
Arizona	$455,350	$580,312	$946,237
Arkansas	$107,008	$153,000	$237,600
California	$5,436,550	$6,316,878	$10,127,087
Colorado	$493,700	$496,924	$772,856
Connecticut	$329,151	$424,915	$694,390
Delaware	$44,258	$153,000	$237,600
District/Col	$195,605	$204,263	$320,329
Florida	$1,487,700	$1,973,067	$3,239,025
Georgia	$619,444	$715,953	$1,146,624
Hawaii	$108,100	$153,000	$237,600
Idaho	$40,000	$153,000	$237,600
Illinois	$2,249,380	$2,249,380	$3,470,897
Indiana	$564,428	$564,428	$842,625
Iowa	$151,607	$168,130	$266,551
Kansas	$168,333	$192,755	$308,141
Kentucky	$240,330	$240,330	$369,094
Louisiana	$438,000	$438,000	$637,814
Maine	$62,306	$153,000	$237,600
Maryland	$920,920	$920,920	$1,379,054
Massachusetts	$1,083,999	$1,083,999	$1,682,016
Michigan	$1,470,219	$1,470,219	$2,166,893
Minnesota	$572,904	$572,904	$879,878
Mississippi	$92,900	$153,000	$237,600
Missouri	$715,407	$715,407	$972,819
Montana	$60,000	$153,000	$237,600
Nebraska	$83,780	$153,000	$237,600
Nevada	$72,500	$163,467	$257,627
New Hampshire	$60,493	$153,000	$237,600
New Jersey	$1,842,311	$1,886,084	$2,944,758
New Mexico	$89,900	$153,000	$237,600
New York	$3,802,264	$3,841,528	$5,979,822
North Carolina	$332,300	$433,957	$710,555
North Dakota	$50,489	$153,000	$237,600
Ohio	$1,371,909	$1,371,909	$2,047,022
Oklahoma	$211,645	$240,019	$382,963
Oregon	$280,261	$280,261	$430,172
Pennsylvania	$1,909,473	$1,909,473	$2,654,933
Rhode Island	$165,658	$165,658	$237,600
South Carolina	$187,240	$246,120	$403,435
South Dakota	$40,412	$153,000	$237,600
Tennessee	$363,497	$396,260	$627,179
Texas	$2,279,399	$2,538,826	$4,036,168
Utah	$162,200	$225,562	$373,125
Vermont	$20,000	$153,000	$237,600
Virginia	$649,423	$816,184	$1,327,600
Washington	$602,839	$666,584	$1,058,146
West Virginia	$72,011	$153,000	$237,600
Wisconsin	$557,792	$557,792	$740,842
Wyoming	$40,000	$153,000	$237,600
Puerto Rico	$348,000	$402,049	$643,842
	$34,040,000	$38,250,000	$59,400,000

TRANSIT PLANNING

Mr. CARR. Please update the table appearing on page 223 of the 1993 hearing volume concerning funding for transit planning.

[The information follows:]

ISTEA significantly increased the planning requirements and responsibilities, and also changed the allocation of Section 8 Metropolitan Planning Grants. FTA no longer obligates funds to Metropolitan Planning Organizations (MPO) based on an administrative formula. Starting in FY 1992, FTA apportioned these funds to each State, which in turn passes these funds to MPOs, based on a formula established by agreement between the State and MPOs, with FTA's approval. Because of the nature of this process, it is our intent to require that States provide FTA information on technical tasks only for year-end reporting purposes, not for budget line items. For this reason, FTA is no longer able to provide the committee with updates to this table.

RECIPIENTS OF TRANSIT PLANNING FUNDS

Mr. CARR. Please update the table appearing on page 225 of the 1993 hearing volume concerning the major recipients of transit planning funds.

[The information follows:]

SECTION 8 PLANNING PROGRAM
TOTAL FUNDS RECEIVED
20 LARGEST UZA'S

All amounts in dollars

	1987	1988	1989	1990	1991	1992
New York	3,599,316	4,590,112	4,618,868	4,036,732	5,438,236	4,106,313
Los Angeles	3,328,800	3,522,538	3,458,800	2,864,800	4,211,425	3,179,196
Chicago	2,695,267	2,548,000	2,448,100	2,486,020	1,561,900	2,276,274
Philadelphia	2,232,632	1,710,244	1,600,500	1,613,700	2,190,900	1,120,550
San Francisco	1,216,381	1,455,200	1,343,900	1,552,300	2,271,200	1,015,694
Detroit	1,495,000	1,410,000	1,320,000	1,055,000	1,180,000	1,180,000
Washington, D.C.	1,121,965	2,126,945	1,003,500	1,080,000	1,146,700	1,028,757
Miami	738,000	479,000	488,900	400,200	528,800	806,656
Boston	965,200	1,412,117	1,024,500	1,049,500	1,327,200	904,092
Houston	1,142,000	1,190,000	1,080,000	784,000	800,000	800,220
Cleveland	585,000	535,000	450,000	607,440	640,000	550,800
Seattle	511,280	469,000	596,000	435,300	852,000	546,277
Atlanta	783,900	713,051	686,900	860,151	513,800	568,254
St. Louis	733,900	643,900	583,900	491,200	548,500	558,232
Denver	485,500	880,500	752,500	682,200	632,300	395,716
Baltimore	530,000	675,000	645,000	462,900	1,252,847	561,273
Dallas	800,000	1,450,000	870,000	1,380,000	800,000	867,222
St. Paul	520,000	582,000	2,020,000	475,000	550,000	562,384
Pittsburgh	614,800	574,680	569,800	479,400	1,195,200	558,050
Milwaukee	530,000	553,000	500,000	400,000	435,000	351,700
San Juan	371,300	371,300	199,300	291,600	366,700	371,325

NOTE: Not necessarily in order

TECHNOLOGY DEVELOPMENT PROJECTS

Mr. **Carr**. Please provide a list of the ongoing technology development projects, including location, purpose, cost and scheduled completion dates.

[The information follows:]

The following is a list of technology development projects [Note: all dollar figures represent Federal share only.]

1. Advanced Transportation Systems and Electric Vehicle Program
   [Four Projects]
   CALSTART
   Los Angeles, CA
   Purpose: to define and develop the necessary infrastructure support systems, and foster full-scale manufacturing of electric transit buses.
   $4.0 million; Completion 9/94

   Chesapeake Consortium
   Baltimore, MD
   Purpose: to develop an advanced, economically viable power train for incorporation into electric vehicles.
   $4.0 million; Completion: 10/94

   New York State Consortium
   New York, NY
   Purpose: to develop and demonstrate a low-floor, full sized transit bus with a hybrid electric propulsion system.
   $2.3 million; Completion: 1/95

   Advanced Lead Acid Battery Consortium
   Research Triangle Park, NC
   Purpose: Develop, demonstrate, and evaluate rapid recharge technology for lead acid batteries.
   $1.2 million; Completion: 1/95

2. Innovative Maintenance Technology
   Washington, DC
   Purpose: to find and and evaluate innovative technologies from non-transit industries, and/or technologies from outside the U.S. to improve transit maintenance efficiency.
   $50,000; Completion: Late 1993

2. Non-Destructive Tunnel Condition Evaluation
   New York, NY
   Purpose: test the feasibility of a photogrammetry mapping technique to determine tunnel movement over time.
   $450,000; Completion: Mid-1993

3. Advanced Fare Collection Project
   Washington, DC
   Purpose: to develop, test and evaluate advanced fare technology systems with emphasis on barrier-free bus-rail system transfer.
   $997,899; Completion: Late 1994

4. Universal Fare Pass System
   Oakland, CA
   Purpose: to assist all San Francisco Bay Area transit agencies in developing and implementing a single multi-modal fare pass system.
   $4.3 million; Completion: Late 1993

5. Rail Corrugation Study
   Baltimore, MD
   Purpose: to determine causes of rail corrugation, and develop alternative remedial measures.
   $215,000; Completion: Fall 1993

6. Signal System Simulator
   New York, NY
   Purpose: develop a simulator to analyze train operations under differing operating scenarios (schedules, etc.), to prepare requirements for major signal system modernization. The overall objective is to increase system capacity and enhance safety.
   $400,000 Completion: Fall 1993

7. Advanced Automatic Train Control System Development
   Oakland, CA
   Purpose: to design and test an advanced automatic train control system using advanced technology which will enable the Bay Area Rapid Transit District to operate trains at closer spacing with safety to increase system capacity.
   $400,000 Completion: Fall 1993 (Phase I)

8. Automated Wayside Passenger Information System
   Newark, NJ
   Purpose: design a real-time information system for commuter rail system passengers to provide information of train delays or other system status.
   $300,000 Completion: Late 1993

9. Superconducting Magnetic Energy Storage (SMES) for Rail Transit
   Oakland, CA
   Purpose: analyze feasibility and test (if feasible) a SMES device to relieve a low voltage problem in critical areas where system electric capacity is constrained.
   $350,000 Completion; Late 1993 (Phase I)

10. Rapid Rail Vehicle Locational Monitoring
    Baltimore, MD
    Purpose: test and evaluate a real-time train locational system with an ancillary system that records mileage and schedules programmed maintenance.
    $902,999; Completion: Late 1994

11. Maglev System Feasibility Study
    Pittsburgh, PA
    Purpose: study feasibility of a Magnetic Levitation demonstration line from downtown Pittsburgh to the Pittsburgh International Airport.
    $660,000 Completion: Late 1993

12. Tunneling Technology
    Washington, DC
    Purpose: disseminate information on tunneling technology and geotechnical issues to rail transit systems designing or constructing tunneled segments.
    $35,000; Completion: Late 1994

13. Suspended Light Rail Transit Technology Pilot Project
    [3 Projects:]
    Montgomery County, MD - $333,333
    Oakland, CA - 333,330
    Milwaukee County, WI - $333,333
    Purpose: The first phase of a 3 phase project is for the three grantees to refine their proposals, i.e., describe proposed system technology, refine patronage projections, refine capital and operating costs, etc.
    Completion: Fall 1993 (Phase I)

14. Inertial Navigation Technology Transfer
Pittsburgh, PA
Purpose: to determine the safety, economic, and environmental benefits of deploying inertial navigation tracking and control systems in rural and urban transit environments.
$997,899; Completion: Mid-1995

15. Fuel Cell/Battery Bus Program
Washington, DC
Purpose: This is a joint DOE/DOT Program to develop and demonstrate the feasibility of a fuel cell/battery propulsion system for an urban transit bus.
$7 million; Completion: Late 1995

16. Photovoltaic Study
Sacramento, CA
This project will evaluate the use of photovoltaic technology in conjunction with energy storage systems as a means to reduce energy purchase demands of electric powered transit vehicles at periods of peak energy usage.
$50,000; Completion: Late 1993

17. Sodium Sulfur Battery
Santa Barbara, CA
Purpose: to evaluate advanced sodium-sulfur batteries as a propulsion system for transit buses. The Department of Energy will supply the sodium sulfur battery to the Santa Barbara Metropolitan Transit District to be installed in one of the District's electric buses.
$150,000; Completion: Late 1994

18. Next Generation Bus
Houston, TX
Purpose: to develop and demonstrate an advanced technology transit bus that may be used as a new industry standard. The new design bus will have a low floor, extra-wide doors for easy ingress and egress, be lighter in weight, and will use corrosion resistant materials.
$4,488,000; Completion: Mid-1995

19. Advanced Technology Transit Bus
Los Angeles, CA
Purpose: to develop the first phase of an Advanced Technology Transit Bus. Phase I comprises preliminary design and manufacturing studies of a low emissions, low floor, light weight advanced design bus.
$3,999,689 Completion: Early 1997

20. Advanced Technology Transit Bus
Los Angeles, CA
Purpose: to develop the first phase of an Advanced Technology Transit Bus. Phase I comprises preliminary design and manufacturing studies of a low emissions, low floor, light weight advanced design bus.
$3,999,689; Completion: Early 1997

21. Computerized Brake Dynamometer
New York, NY
Purpose: to test and evaluate a computerized brake diagnostic dynamometer for determining bus braking capacity. The dynamometer will be incorporated as part of a transit agency's preventive maintenance program to detect brake safety problems.
$150,000; Completion: Mid-1995

22. Bus On-Board and Wayside Information Displays
Houston, TX
Purpose: to demonstrate the benefits and practicality of the use of wayside electronic signs at bus stops to inform passengers of the route number and expected time of arrival of all buses that are enroute and expected to arrive at the stop within the next hour.
$262,500; Completion: Early 1994

23. Automated Emergency Response System
Burlington, MA
Purpose: to develop and demonstrate a stand-alone computerized system to provide bus control operations with real-time instructions on actions to take under different emergencies. The software developed for this project is generic, and may be used by any transit agency.
$205,000; Completion: Early 1994

24. Alternative Fuels Initiative Program
Nationwide Program
61 grants have been awarded for over 1100 alternative fuel powered transit buses. Federal grants total over $185 million; Completion: Various

25. Seattle Smart Traveler

Seattle, WA

Purpose: This project examines ways in which mobile communications, such as cellular phones, can be used to make ridesharing (carpooling and vanpooling), more attractive. A set of information-based services for ride-matching was developed in Phase I in cooperation with the mobile telecommunications industry in an effort to increase the use of HOV facilities. The initial focus advised private auto drivers of rideshare possibilities using mobile communications.

$144,000; Completion: Early 1994

26. California Smart Traveler

California

Purpose: This project supports the efforts of the California DOT to design and operationally test and evaluate the California Advanced Public Transportation Systems program for applying Intelligent Vehicle Highway System (IVHS) advanced technology to transit, paratransit and ridesharing. Both the public and private sectors will jointly test an audiotex/video-based Advanced Traveler Information System will permit residential and business users to interact using remote computer systems over telephone lines to exchange timely transportation information.

$1,105,000; Completion: Late 1994

27. Houston Smart Commuter

Harris County, TX

Purpose: This project seeks to develop and evaluate a real-time traffic and transit information system. Four tasks are underway: (1) assess the market potential to increase bus, vanpool, and carpool options to travelers at home and work; (2) evaluate available technologies and identify those most feasible and cost-effective; (3) examine various ways of gathering and distributing transit and traffic information, to include the identification of roles and costs for the agencies involved; and (4) identify the project's administrative requirements and projected costs.

$590,000; Completion: Late 1994

28. Twin Cities Smart Traveler
St. Paul, MN
Purpose: The Regional Transit Board is conducting a preliminary study of the potential of smart cards to improve transit service. Four objectives are identified: first, to find the best use of smart cards in fare payment; second, to evaluate the potential of smart cards in an electronic billing system; third, to study the potential of monitoring contractor performance through smart card systems; and forth, to study smart card potential on standard transit routes.
$40,000; Completion: Late 1993

29. Twin Cities Smart Traveler
St. Paul, MN
Purpose: The Regional Transit Board is conducting a preliminary study of the potential of smart cards to improve transit service. Four objectives are identified: (1) to find the best use of smart cards in fare payment; (2) to evaluate the potential of smart cards in an electronic billing system; (3) to study the potential of monitoring contractor performance through smart card systems, (4) to study smart card potential on standard transit routes.
$40,000; Completion: Late 1993

30. Rouge Valley Mobility Manager
Central Point, Oregon
Purpose: This project will demonstrate the Mobility Manager concept to integrate transportation users, providers and funding sources. Advanced electronic technology will be used to record financial transactions and will focus on providing transportation service to the elderly and disabled who are unable to use fixed route transit. Using existing hardware and readily developed software, the second phase will demonstrate the mobility manager concept for frequent transit riders in urban and rural environments. The third phase will lead to participation by the general public.
$460,000; Completion: Early 1994

31. Portland Smart Bus
Portland, OR
Purpose: This project reviews the German-made Flexible Operation Command and Control System (FOCCS) that integrates fixed-route transit, dial-a ride minibus, and contract taxi services. The information integration provides arrival and destination data to

travelers and operators. The review included the following: (1) evaluating the technical and economic feasibility of adding audiotex/videotex component to Tri-Met's central control plans; (2) to evaluate the cost-effectiveness of FOCCS in Portland's rapidly growing suburbs; and (3) to design an operational test for those components found suitable. Hardware and software requirements are included in the analysis.
$54,000; Completion: Mid-1993

32. Traffic Management Information and Fleet Operation Coordination
Anaheim, CA
Purpose: This study further develops a concept plan and project design for a real-time information service to be provided to travelers in a variety of ways including at bus stops, transfer centers and on transit vehicles. The information sources to be used will include the City of Anaheim, the Orange County Transit District and the California Department of Transportation. A Central Traveler Information System will be used. The City of Anaheim has one of California's most advanced traffic management systems and has been selected by Caltrans as a test site.
$100,000; Completion: Late 1993

33. Ann Arbor Smart Intermodal
Ann Arbor, Michigan
Purpose: This project will report the Ann Arbor Transportation Authority's conduct of an operation test of the Smart Bus concept. Included are an on-board bus communication and navigation system, a central control system, and a "Smart Card" fare collection and actual performance in regard to route, location, speed and status of mechanical systems. It will allow control of on-board electronics, such as the fare collection system, designation sign and enunciator. The on-board system will also enable buses to interact with traffic signal preemption devices and to communicate with the central control system. The central control system will then integrate the data from the bus fleet for coordinated supervision, and will also provide real-time transit information to the public.
$480,000; Completion: Early 1994

34. Chicago Smart Intermodal
Chicago, IL
Purpose: This project supports data collection and evaluation of an operational test of a Bus Service Management System (BSMS) by the Chicago Transit Authority (CTA). The CTA is in the process of creating a BSMS which includes procuring an Automatic Vehicle Location system, a computer-assisted dispatch and control system, real-time passenger information signs, and a traffic signal preemption system. In addition to supporting data collection and evaluation, the BSMS, and to analyze the BSMS human factors element to assess the effects of introducing video terminals and information systems into the transit dispatching environment.
$490,000; Completion: Mid-1994

35. Advanced Fare Payment Media I
Falls Church, VA
Purpose: This is the first of two projects to investigate and research various forms of advanced fare payment media for transit applications. The focus is upon advanced card systems to improve the efficiency of fare collection and provide measurable benefits to the transit provider and rider alike. There will be in-depth descriptions and analyses of all types of advanced media, including infrared, RF/Microwave, contact smart cards, proximity cards and others.
$50,000; Completion: Mid-1993

36. Advanced Fare Payment Media II
Diamond, Bar, CA
Purpose: This is the second of two projects to investigate and research various forms of advanced fare payment media for transit applications. The focus is upon advanced card systems to improve the efficiency of fare collection and provide measurable benefits to the transit provider and rider alike. There will be in-depth descriptions and analyses of all types of advanced media, including infrared, RF/Microwave, contact smart cards, proximity cards and others.
$50,000; Completion: Late-1993

37. Transit Network Route Decision Aid
Ann Arbor, MI
Purpose: This project is to develop specifications for designing implementing and evaluating a computerized information system to aid a telephone operator in rapidly identifying useful itineraries for passengers in a mass transit system. Specifically, it would develop a plan for decision aid evaluation.
$50,000; Completion: Late-1993

DISTRIBUTION OF RAIL MODERNIZATION FUNDS

Mr. CARR. Please provide a distribution of 1993 section 3 rail modernization funding.

[The information follows:]

Fiscal year 1993 FTA section 3 formula apportionments—amounts apportioned to areas for fixed guideway modernization

Area	*Apportionment*
New York	$229,114,258
Southwestern Connecticut	30,322,231
Northeastern New Jersey	60,234,911
Chicago/Northwestern Indiana	95,899,864
Philadelphia/Southern New Jersey	69,569,850
Boston	47,581,448
San Francisco	43,198,132
Pittsburgh	14,845,574
Cleveland	10,288,387
Maryland Commuter Rail	10,900,293
New Orleans	1,999,254
Subtotal	$613,984,202
Los Angeles	$4,826,115
Washington, DC	14,110,775
Seattle, WA	6,128,151
Atlanta, GA	5,955,027
San Diego, CA	2,720,190
San Jose	2,940,529
Providence	1,108,263
Dayton	1,296,381
Tacoma	244,361
Wilmington	375,349
Trenton	611,579
Lawrence-Haverhill	583,626
Chattanooga	37,127
Baltimore	1,474,047
Buffalo	480,153
Portland	1,043,553
Miami	3,338,660
Subtotal	$47,273,886
Total	$661,258,088

NEW START PROJECT INSTRUMENTS

Mr. CARR. Please provide information regarding outstanding new start project instruments similar to the data shown on page 253 of the 1993 hearing volume.

[The information follows:]

OUTSTANDING NEW START PROJECT INSTRUMENTS—FULL FUNDING GRANT AGREEMENTS

UZA	Funding source	Project description	FFGA amount	Outstanding balance
Baltimore	Interstate	Metro. Sec. C	$282.0	
Washington	WMATA	Franconia	145.0	$112.0
	Appropriation	Glenmont	182.0	181.4
		Mid City	401.7	364.1
Miami	Section 3	Metro ext	186.0	50.4
Jacksonville	Section 3	DPM North ext	28.8	
Houston	Section 3	I–45 Transitway	46.7	
St. Louis	Section 3	Metro-link	339.0	12.0

OUTSTANDING NEW START PROJECT INSTRUMENTS—FULL FUNDING GRANT AGREEMENTS—Continued

UZA	Funding source	Project description	FFGA amount	Outstanding balance
Denver	Section 3	I–25 Busway	70.0	
Los Angeles	Section 3	MOS–2	667.0	118.9
Portland	Section 3	Westside LRT	515.9	501.6

Mr. CARR. Please provide a list of potential Section 3 New Start projects assumed in the fiscal year 1994 budget.

[The information follows:]

The following projects are recommended in the May 1993 3(j) Report for funding in FY 1994:

	Millions
Los Angeles/MOS–2	$69.27
St. Louis/Metrolink	15.20
Portland/Westside LRT	104.00
Dallas/South Oak Cliff	38.72
New York/Queens	73.80
Los Angeles/MOS–3	163.05
Atlanta/North Line Ext	54.00
Pittsburgh/Busway Ext	12.88
Houston/Regional Bus	5.00
New Jersey/Urban Core	40.00
Baltimore/LRT Ext	18.15
Chicago/Central	5.00
Orange County/Transitway	10.00
San Francisco Area	28.20
Maine/Boston-Portland CR	5.00
Maryland/MARC Extensions	10.00
Total	$652.27

LETTERS OF NO PREJUDICE

Mr. CARR. Please provide a list of letters of no prejudice similar to that contained on pages 260–261 of the 1993 hearing volume.

[The information follows:]

OUTSTANDING LETTERS OF NO PREJUDICE

PROJECT NUMBER	GRANTEE	DESCRIPTION	DATE ISSUED	EXPIRATION DATE	LONP AMOUNT	STATUS	AMOUNT OBLIGATED	LONP BALANCE
REGION 1								
MA-	MBTA	OLD COLONY RAIL RESTORATION	08/28/92	08/31/93	$19,773,000	OUTSTANDING	$0	$19,773,000
MA-	MBTA	OLD COLONY RAIL RESTORATION	09/29/92	09/30/93	$20,463,656	OUTSTANDING	$0	$20,463,656
MA-	MBTA	SOUTH BOSTON PIERS TRANSITWAY	11/12/92	09/30/93	$10,250,000	OUTSTANDING	$0	$10,250,000
MA-	MBTA	NEPONSET RIVER BRIDGE	02/26/93	09/30/93	$26,066,824	OUTSTANDING	$0	$26,066,824
MA-	MBTA	OLD COLONY RAIL RESTORATION	09/29/92	09/30/93	$22,550,432	OUTSTANDING	$0	$22,550,432
			UNSPECIFIED TOTAL		$99,103,912		$0	$99,103,912
MA-90-X141	MBTA	OLD COLONY RAIL RESTORATION	08/28/92	08/31/93	$3,200,000	OUTSTANDING	$0	$3,200,000
			SECTION 9 TOTAL		$3,200,000		$0	$3,200,000
			REGION 1 TOTAL		$102,303,912		$0	$102,303,912
REGION 2								
NJ-	NJTC	ACQUISITION OF LONG LEAD TRACK EQUIPMENT	12/17/92	12/31/93	$8,450,000	OUTSTANDING	$0	$8,450,000
			UNSPECIFIED TOTAL		$8,450,000		$0	$8,450,000
VI-18-X010	VIDPW	BUS PROCUREMENT	01/28/93	03/31/94	$3,000,000	OUTSTANDING	$0	$3,000,000
			SECTION 18 TOTAL		$3,000,000		$0	$3,000,000
CT-90-	CONNDOT	CONTINUOUS WELDED RAIL AND TURNOUTS	08/26/92	08/26/93	$4,800,000	OUTSTANDING	$0	$4,800,000
NJ-90-X037	NJTC	FY 1992/1993 CAPITAL/OPERATING	03/05/93	03/31/94	$130,850,000	OUTSTANDING	$0	$130,850,000
NY-90-X239	MTA	FY 1993 CAPITAL PROGRAM	12/19/92	12/31/94	$171,178,700	OUTSTANDING	$0	$171,178,700
NY-90-X253	CDTA	CMAQ PROGRAM	01/26/93	01/31/94	$3,508,000	OUTSTANDING	$0	$3,508,000
			SECTION 9 TOTAL		$310,336,700		$0	$310,336,700
			REGION 2 TOTAL		$321,786,700		$0	$321,786,700

OUTSTANDING LETTERS OF NO PREJUDICE

PROJECT NUMBER	GRANTEE	DESCRIPTION	DATE ISSUED	EXPIRATION DATE	LONP AMOUNT	STATUS	AMOUNT OBLIGATED	LONP BALANCE
REGION 3								
MD-	MTA	CENTRAL CORRIDOR LIGHT RAIL LINE PE AND REAL ESTATE APPRAISALS	12/07/92	12/31/93	$2,240,000	OUTSTANDING	$0	$2,240,000
NJ-	DRPA	PATCO HIGH SPEED LINE ADA COMPLIANCE	01/04/93	12/31/94	$2,600,000	OUTSTANDING	$0	$2,600,000
PA-	ATA	FACILITY LAND ACQUITION AND SITE PREPARATION	07/17/92	06/30/93	$92,000	OUTSTANDING	$0	$92,000
VA-	NORTHERN VIRGINIA TC	VIRGINIA RAILWAY EXPRESS STATIONS ADA IMPROVEMENTS	03/19/93	03/31/94	$733,557	OUTSTANDING	$0	$733,557
VA-	VDRPT	DULLES CORRIDOR RAIL PROJECT SYSTEM PLANNING ACTIVITIES	12/14/92	09/30/94	$750,000	OUTSTANDING	$0	$750,000
WV-	KANAWHA VALLEY	PURCHASE PROPERTY FOR BUS	08/26/92	09/30/93	$490,000	OUTSTANDING	$0	$490,000
			UNSPECIFIED TOTAL		$6,905,557		$0	$6,905,557
PA-90-X221-00	SEPTA	FRANKFORD ELEVATED PRIORITY ELEMENT PROGRAM	09/26/91	09/30/93	$100,000,000	OUTSTANDING (PARTIALLY LIQUIDATED UNDER PA-03-0229)	$40,000,000	$60,000,000
			SECTION 9 TOTAL		$100,000,000		$40,000,000	$60,000,000
DC-75-	WMATA	RAILCAR REHABILITATION (298)	08/24/92	08/23/93	$134,720,792	OUTSTANDING	$0	$134,720,792
			STARK HARRIS TOTAL		$134,720,792		$0	$134,720,792
			REGION 3 TOTAL		$241,626,349		$40,000,000	$201,626,349

OUTSTANDING LETTERS OF NO PREJUDICE

PROJECT NUMBER	GRANTEE	DESCRIPTION	DATE ISSUED	EXPIRATION DATE	LONP AMOUNT	STATUS	AMOUNT OBLIGATED	LONP BALANCE
REGION 4								
FL-	JACKSONVILLE TA	AUTOMATED SKYWAY EXPRESS	10/16/90	09/30/93	$1,470,000	OUTSTANDING (PARTIALLY LIQUIDATED)	$400,000	$1,070,000
GA-	MARTA	SANDY SPRINGS STATION ENGINEERING/DESIGN	09/20/91	10/31/93	$23,050,000	SCOPE/LONP AMOUNT INCREASED 1/7/93 (PARTIALLY LIQUIDATED 03/31/93)	$21,050,000	$2,000,000
TN-	CARTA	BATTERY POWERED BUSES (22)	09/30/92	06/30/93	$16,000,000	OUTSTANDING	$0	$16,000,000
			UNSPECIFIED TOTAL		$40,520,000		$21,450,000	$19,070,000
FL-90-X198	VOLTRAN	ADMINISTRATION/MAINTENANCE FACILITY REAL ESTATE PURCHASE	02/19/93	09/30/95	$345,000	OUTSTANDING	$0	$345,000
FL-90-X206	MDTA	PURCHASE 40 FOOT BUSES (33)	09/28/92	06/30/93	$5,280,000	OUTSTANDING (PARTIALLY LIQUIDATED)	$5,095,200	$184,800
KY-90-X066	TARC	OPERATING AND CAPITAL GRANT	01/29/93	12/31/94	$4,980,000	OUTSTANDING (PARTIALLY LIQUIDATED)	$4,510,000	$470,000
			SECTION 9 TOTAL		$10,605,000		$9,605,200	$999,800
			REGION 4 TOTAL		$51,125,000		$31,055,200	$20,069,800
REGION 5								
IL-	CTA	FLOOD DAMAGE TO CTA'S INFRASTRUCTURE	04/22/92	09/30/94	$40,000,000	OUTSTANDING	$0	$40,000,000
IL-	RTA (COMMUTER RAIL DIV.)	CHICAGO/NORTHWESTERN CHICAGO PASSENGER TERMINAL	09/20/91	09/30/95	$68,091,194	OUTSTANDING	$18,362,500	$49,728,694
IN-	NICTD	RAILCARS (14)	03/28/91	09/30/93	$14,900,000	OUTSTANDING	$9,249,999	$5,650,001
			UNSPECIFIED TOTAL		$122,991,194		$27,612,499	$95,378,695
IL-90-X	CTA	BUS SERVICE MANAGEMENT SYSTEM	09/08/92	09/07/93	$32,000,000	OUTSTANDING	$0	$32,000,000
			SECTION 9 TOTAL		$32,000,000		$0	$32,000,000
			REGION 5 TOTAL		$154,991,194		$27,612,499	$127,378,695

OUTSTANDING LETTERS OF NO PREJUDICE

PROJECT NUMBER	GRANTEE	DESCRIPTION	DATE ISSUED	EXPIRATION DATE	LONP AMOUNT	STATUS	AMOUNT OBLIGATED	LONP BALANCE
REGION 6								
LA-	RTA	CANAL STREET CORRIDOR ALTERNATIVES ANALYSIS	12/07/92	12/31/93	$2,500,000	OUTSTANDING	$0	$2,500,000
NM-	SANTA FE	PURCHASE BUS (8), TOW TRUCK, SERVICE VEHICLE, BUS STOP SIGNS	12/10/92	12/31/93	$1,282,560	OUTSTANDING	$0	$1,282,560
TX-	CORPUS CHRISTI	CITY HALL TRANSFER CENTER	12/28/92	12/31/94	$800,000	OUTSTANDING	$0	$800,000
TX-	HOUSTON METRO	ARTICULATED NEOPLAN LNG (18) AND 45-FOOT NEOPLAN LNG (20)	12/30/92	12/31/94	$13,567,894	OUTSTANDING	$0	$13,567,894
TX-	HOUSTON MTA	PHASE I/II: VEHICLE RETROFIT, ETC.	01/31/92	09/30/93	$33,387,000	OUTSTANDING	$0	$33,387,000
TX-	HOUSTON MTA	VEHICLE RETROFIT (3)/ETC.	04/15/91	09/30/93	$744,250	EXTENDED	$0	$744,250
TX-	DART	TRACKWORK. SERVICE/INSPECTION FACILITY, LIGHT RAIL CARS (19)	11/09/92	09/30/93	$160,000,000	OUTSTANDING	$0	$160,000,000
TX-	DART	SOUTH OAK CLIFF LIGHT RAIL	12/17/91	09/30/93	$160,000,000	SCOPE/LONP AMOUNT INCREASED 11/9/92	$0	$160,000,000
TX-	CITY OF LAREDO	INTERMODAL TRANSIT TRANSFER FACILITY	05/08/92	03/31/94	$7,000,000	OUTSTANDING	$0	$7,000,000
TX-	WOODLANDS	PEDESTRIAN/TRANSIT CORRIDOR	09/30/92	09/30/93	$429,000	OUTSTANDING	$0	$429,000
TX-	CORPUS CHRISTI	CITY HALL BUS TRANSFER CENTER	12/28/92	12/31/94	$800,000	OUTSTANDING	$0	$800,000
TX-	BRAZOS VALLEY	TOWN CENTER PEDESTRIAN/TRANSIT CORRIDOR ENVIRONMENTAL REVIEW AND PRELIMINARY ENGINEERING; TRANSIT VEHICLES (86)	03/31/93	03/31/95	$14,730,000	OUTSTANDING	$0	$14,730,000
			UNSPECIFIED TOTAL		$395,240,704		$0	$395,240,704
LA-90-X130	NEW ORLEANS	ST. TAMMY PARISH RAIL FEASIBILITY STUDY	05/18/92	05/31/94	$63,000	OUTSTANDING	$0	$63,000
TX-90-X145	HOUSTON METRO	TRANSIT BUSES (270)	05/11/89	09/30/93	$45,740,000	OUTSTANDING	$0	$45,740,000
			SECTION 9 TOTAL		$45,803,000		$0	$45,803,000
			REGION 6 TOTAL		$441,043,704		$0	$441,043,704

OUTSTANDING LETTERS OF NO PREJUDICE

PROJECT NUMBER	GRANTEE	DESCRIPTION	DATE ISSUED	EXPIRATION DATE	LOAN AMOUNT	STATUS	AMOUNT OBLIGATED	LOAN BALANCE
REGION 7								
MO-	KCATA	FULL SIZE BUSES (12)	07/31/92	06/01/93	$1,634,498	OUTSTANDING	$0	$1,634,498
			UNSPECIFIED TOTAL		$1,634,498		$0	$1,634,498
MO-90-X082	KCATA	TRANSIT BUSES (2) AND URBAN CORE TRANSIT PLANNING STUDY	07/31/92	06/01/93	$476,000	OUTSTANDING	$0	$476,000
MO-90-X082-01	KCATA	BLUE SPRINGS COMMUTER SERVICE CAPITAL COSTS	12/08/92	09/30/93	$24,000	OUTSTANDING	$0	$24,000
MO-90-X085	COLUMBIA	PURCHASE 4 VANS AND ONE VAN WHEELCHAIR LIFT RETROFIT	09/30/92	09/01/93	$62,952	OUTSTANDING	$0	$62,952
			SECTION 9 TOTAL		$562,952		$0	$562,952
IA-23-9005	BLACK HAWK	LOW-FLOOR RAMP ACCESSIBLE MEDIUM DUTY TRANSIT COACHES (3)	07/31/92	06/01/93	$357,000	OUTSTANDING	$0	$357,000
			TITLE 23 TOTAL		$357,000		$0	$357,000
			REGION 7 TOTAL		$2,554,450		$0	$2,554,450
REGION 8								
CO-	RTD	ACCESSIBLE STANDARD BUSES (66)	01/20/93	09/30/93	$11,284,824	OUTSTANDING	$0	$11,284,824
			UNSPECIFIED TOTAL		$11,284,824		$0	$11,284,824
UT-	UTA	SALT LAKE CITY LIGHT RAIL PROJECT RAILROAD ROW PURCHASE	10/27/92	09/30/93	$12,500,000	OUTSTANDING	$0	$12,500,000
CO-90-X070	RTD	ACCESSIBLE INTERCITY BUSES (20), ACCESSIBLE STANDARD BUSES (4), MOBILE RADIOS (22), AND ASSOCIATED MAJOR SPARE UNIT COMPONENTS	01/29/93	09/30/93	$4,941,632	SCOPE INCREASE 3/5/93	$0	$4,941,632
			SECTION 9 TOTAL		$17,441,632		$0	$17,441,632
			REGION 8 TOTAL		$28,726,456		$0	$28,726,456

OUTSTANDING LETTERS OF NO PREJUDICE

PROJECT NUMBER	GRANTEE	DESCRIPTION	DATE ISSUED	EXPIRATION DATE	LONP AMOUNT	STATUS	AMOUNT OBLIGATED	LONP BALANCE
REGION 9								
CA-	SACRAMENTO RT	PURCHASE 20 REPLACEMENT BUSES	12/28/92	09/30/93	$4,240,000	OUTSTANDING	$0	$4,240,000
CA-	SACRAMENTO (RT)	SOUTH SACRAMENTO CORRIDOR AA/DEIS	05/28/92	04/30/93	$2,000,000	OUTSTANDING	$0	$2,000,000
CA-	OCTD	I-405/SR-55	08/15/91	09/30/93	$179,100,000	OUTSTANDING	$0	$179,100,000
CA-	CALTRANS	PURCHASE SAN JOSE CAHILL STATION	12/19/91	06/30/93	$4,152,500	OUTSTANDING	$0	$4,152,500
CA-	SFPUC	LIGHT RAIL VEHICLES (14)	11/25/91	09/30/93	$22,648,050	OUTSTANDING	$0	$22,648,050
CA-	CALTRANS	WHEELCHAIR ACCESSIBILITY	08/17/90	06/30/93	$5,000,000	EXTENDED	$0	$5,000,000
CA-	CALTRANS	CENTRALIZED MAINTENANCE FACILITY FINAL DESIGN AND ENGINEERING	12/20/91	06/30/93	$4,500,000	OUTSTANDING	$0	$4,500,000
CA-	RTDB	SOUTH BAY MAINTENANCE FACILITY	08/01/91	09/30/93	$2,250,000	OUTSTANDING	$0	$2,250,000
CA-	BART	COLMA STATION EXTENSION CONSTRUCTION, ROW ACQUISITION, UTILITY RELOCATION AND INSURANCE	12/31/92	06/30/93	$34,441,000	OUTSTANDING	$0	$34,441,000
CA-	LACTC	MOS-3: NORTH HOLLYWOOD AND MID CITY EXTENSIONS	06/01/92	09/30/93	$303,128,800	EXTENDED/LONP AMOUNT INCREASED 2/19/93	$0	$303,128,800
CA-	SCRTD	UNION STATION GATEWAY PHASE I	01/31/93	09/30/93	$12,203,694	OUTSTANDING	$0	$12,203,694
			UNSPECIFIED TOTAL		$573,664,044		$0	$573,664,044
CA-90-	SCRTD	UNDERGROUND STORAGE TANK AND FUEL DELIVERY SYSTEMS	09/29/92	08/30/93	$11,200,000	OUTSTANDING	$0	$11,200,000
CA-90-	SANTA CLARA	BUSES (55)	08/31/92	07/01/93	$11,312,730	OUTSTANDING	$0	$11,312,730
CA-90-X420	CALTRANS	WHEELCHAIR ACCESSIBILITY PROGRAM: TICKET VENDING MACHINE	10/15/91	09/30/93	$1,458,120	EXTENDED	$0	$1,458,120
CA-90-X523	SACRAMENTO REGIONAL TD	LEASE REPLACEMENT BUSES (75) RADIOS, FARE COLLECTION SYSTEM	04/06/92	07/30/93	$31,645,000	OUTSTANDING	$0	$31,645,000
CA-90-X531	FOOTHILL	BUS LEASE PAYMENT (192)	03/24/93	09/30/93	$4,220,000	OUTSTANDING	$0	$4,220,000
CA-90-X538	OCTD	UNDERGROUND TANK REPLACEMENT AND SOIL REMEDIATION	10/30/92	07/30/93	$3,905,600	OUTSTANDING	$0	$3,905,600
CA-90-X560	SCRTD	UNION STATION GATEWAY PHASE I	01/31/93	09/30/93	$2,036,000	OUTSTANDING	$0	$2,036,000
			SECTION 9 TOTAL		$65,777,450		$0	$65,777,450
			REGION 9 TOTAL		$639,441,494		$0	$639,441,494

OUTSTANDING LETTERS OF NO PREJUDICE

PROJECT NUMBER	GRANTEE	DESCRIPTION	DATE ISSUED	EXPIRATION DATE	LONP AMOUNT	STATUS	AMOUNT OBLIGATED	LONP BALANCE
REGION 10								
WA-90-X131	PIERCE TRANSIT	PURCHASE 25 CNG BUSES AND RELATED EQUIPMENT	12/03/92	12/03/93	$2,589,918	OUTSTANDING	$0	$2,589,918
			SECTION 9 TOTAL		$2,589,918		$0	$2,589,918
			REGION 10 TOTAL		$2,589,918		$0	$2,589,918
			FTA TOTAL		$1,986,189,177		$98,667,699	$1,887,521,478

FISCAL YEAR 1993 LETTERS OF NO PREJUDICE ISSUED

Mr. CARR. Please indicate the letters of no prejudice issued to date during the current year. Also indicate the letters of no prejudice that have expired during the past year.

[The information follows:]

LETTERS OF NO PREJUDICE ISSUED IN FY 1993

PROJECT NUMBER	GRANTEE	DESCRIPTION	DATE ISSUED	EXPIRATION DATE	LONP AMOUNT
CO-90-X070	RTD	ACCESSIBLE INTERCITY BUSES (20), ACCESSIBLE STANDARD BUSES (4), MOBILE RADIOS (22), AND ASSOCIATED MAJOR SPARE UNIT COMPONENTS	01/29/93	09/30/93	$4,941,632
CA-	SACRAMENTO RT	PURCHASE 20 REPLACEMENT BUSES	12/28/92	09/30/93	$4,240,000
CA-	BART	COLMA STATION EXTENSION CONSTRUCTION, ROW ACQUISITION, UTILITY RELOCATION AND INSURANCE	12/31/92	06/30/93	$34,441,000
CA-	SCRTD	UNION STATION GATEWAY PHASE I	01/31/93	09/30/93	$12,203,694
CA-90-X531	FOOTHILL	BUS LEASE PAYMENT (192)	03/24/93	09/30/93	$4,220,000
CA-90-X538	OCTD	UNDERGROUND TANK REPLACEMENT AND SOIL REMEDIATION	10/30/92	07/30/93	$3,905,600
CA-90-X539	MONTEBELLO	CORPORATE YARD FACILITY ARCHITECTURAL/ENGINEERING WORK	12/21/92	06/30/93	$660,000
CA-90-X560	SCRTD	UNION STATION GATEWAY PHASE I	01/31/93	09/30/93	$2,036,000
CO-	RTD	ACCESSIBLE STANDARD BUSES (66)	01/20/93	09/30/93	$11,284,824
FL—90-X198	VOLTRAN	ADMINISTRATION/MAINTENANCE FACILITY REAL ESTATE PURCHASE	02/19/93	09/30/95	$345,000
GA-90-X074	MARTA	FIVE POINTS RAIL STATION ADA ACCESSIBILITY MODIFICATION	12/09/92	06/30/93	$250,000
KY-90-X066	TARC	OPERATING AND CAPITAL GRANT	01/29/93	12/31/94	$4,980,000
LA-	RTA	CANAL STREET CORRIDOR ALTERNATIVES ANALYSIS	12/07/92	12/31/93	$2,500,000
MA-	MBTA	SOUTH BOSTON PIERS TRANSITWAY	11/12/92	09/30/93	$10,250,000
MA-	MBTA	NEPONSET RIVER BRIDGE	02/26/93	09/30/93	$26,066,824
MD-	MTA	CENTRAL CORRIDOR LIGHT RAIL LINE PE AND REAL ESTATE APPRAISALS	12/07/92	12/31/93	$2,240,000
MO-90-X082-01	KCATA	BLUE SPRINGS COMMUTER SERVICE CAPITAL COSTS	12/08/92	09/30/93	$24,000
NJ-	DRPA	PATCO HIGH SPEED LINE ADA COMPLIANCE	01/04/93	12/31/94	$2,600,000
NJ-	NJTC	ACQUISITION OF LONG LEAD TRACK EQUIPMENT	12/17/92	12/31/93	$8,450,000
NJ-90-X037	NJTC	FY 1992/1993 CAPITAL/OPERATING	03/05/93	03/31/94	$130,850,000
NM-	SANTA FE	PURCHASE BUS (8), TOW TRUCK, SERVICE VEHICLE, BUS STOP SIGNS	12/10/92	12/31/93	$1,282,560
NY-90-X239	MTA	FY 1993 CAPITAL PROGRAM	12/19/92	12/31/94	$171,178,700
NY-90-X253	CDTA	CMAQ PROGRAM	01/26/93	01/31/94	$3,508,000
OH-03-0117	OHIO DOT	VEHICLES AND RELATED EQUIPMENT	02/12/93	12/31/93	$1,344,715
OK-90-X042	TULSA METRO	REGIONAL MOBILITY STUDY	12/08/92	11/13/93	$153,120
PA-03-0236	WBT	GARAGE AND OFFICE IMPROVEMENT PHASE IV	12/07/92	09/30/94	$400,000

LETTERS OF NO PREJUDICE ISSUED IN FY 1993

PROJECT NUMBER	GRANTEE	DESCRIPTION	DATE ISSUED	EXPIRATION DATE	LONP AMOUNT
PA-90-X251	YCTA	ADMINISTRATIVE/OPERATING/ MAINTENANCE FACILITY	12/08/92	12/31/94	$230,620
TX-	CORPUS CHRISTI	CITY HALL TRANSFER CENTER	12/28/92	12/31/94	$800,000
TX-	HOUSTON METRO	ARTICULATED NEOPLAN LNG (18) AND 45-FOOT NEOPLAN LNG (20)	12/30/92	12/31/94	$13,567,894
TX-	DART	TRACKWORK. SERVICE/INSPECTION FACILITY, LIGHT RAIL CARS (19)	11/09/92	09/30/93	$160,000,000
TX-	CORPUS CHRISTI	CITY HALL BUS TRANSFER CENTER	12/28/92	12/31/94	$800,000
TX-	BRAZOS VALLEY	TOWN CENTER PEDESTRIAN/TRANSIT CORRIDOR ENVIRONMENTAL REVIEW AND PRELIMINARY ENGINEERING; TRANSIT VEHICLES (86)	03/31/93	03/31/95	$14,730,000
UT-	UTA	SALT LAKE CITY LIGHT RAIL PROJECT RAILROAD ROW PURCHASE	10/27/92	09/30/93	$12,500,000
VA-	NORTHERN VIRGINIA TC	VIRGINIA RAILWAY EXPRESS STATIONS ADA IMPROVEMENTS	03/19/93	03/31/94	$733,557
VA-	VDRPT	DULLES CORRIDOR RAIL PROJECT SYSTEM PLANNING ACTIVITIES TRANSPORTATION CENTER	12/14/92	09/30/94	$750,000
VA-90-X103	CITY OF RICHMOND	DOWNTOWN RICHMOND MULTIMODAL	12/08/92	12/31/94	$200,000
VI-18-X010	VIDPW	BUS PROCUREMENT	01/28/93	03/31/94	$3,000,000
WA-90-X131	PIERCE TRANSIT	PURCHASE 25 CNG BUSES AND RELATED EQUIPMENT	12/03/92	12/03/93	$2,589,918
			TOTAL		$654,257,658

EXPIRED FISCAL YEAR 1992 LETTERS OF NO PREJUDICE

PROJECT NUMBER	GRANTEE	DESCRIPTION	DATE ISSUED	EXPIRATION DATE	LONP AMOUNT	STATUS
CA-90-X	TORRANCE	REPLACEMENT BUSES (13)	01/02/92	09/30/92	$3,100,000	EXPIRED
TX-90-X225	CORPUS CHRISTI	PARATRANSIT VANS (9) RURAL VANS (2), BUSES (7), COACHES (4), MANAGEMENT INFORMATION SYSTEM	10/28/91	08/31/92	$2,484,000	EXPIRED
			TOTAL		$5,584,000	

TUESDAY, MAY 11, 1993.

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY (WMATA)

WITNESSES

ROBERT H. McMANUS, ACTING ADMINISTRATOR, FEDERAL TRANSIT ADMINISTRATION

DAVID L. GUNN, GENERAL MANAGER, WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY (WMATA)

GEORGE W. MILLER, DEPUTY GENERAL MANAGER, WMATA

PETER BENJAMIN, ASSISTANT GENERAL MANAGER FOR FINANCE AND COMPTROLLER

TRACY C. TUCKER, ASSISTANT GENERAL MANAGER FOR DESIGN AND CONSTRUCTION

OPENING REMARKS

Mr. CARR. We are going to ask Mr. Gunn and WMATA to join Mr. McManus at the table. I believe Mr. Wolf has a time problem.

In the interest of time, I will dispense with my opening statement and merely indicate to you that the committee is grateful for the service you have given both to WMATA and to this Committee. And I am going to turn it over to my friend from Northern Virginia, Mr. Wolf, to begin the questioning.

Your prepared statements will be placed in the record. And when Mr. Wolf is finished, we will ask you to summarize the highlights. Mr. Wolf has been most patient today.

[The prepared statements of Mr. McManus and Mr. Gunn follow:]

STATEMENT OF ROBERT H. MCMANUS

ACTING ADMINISTRATOR, FEDERAL TRANSIT ADMINISTRATION

BEFORE THE SUBCOMMITTEE ON TRANSPORTATION AND RELATED AGENCIES

COMMITTEE ON APPROPRIATIONS, U.S. HOUSE OF REPRESENTATIVES

TUESDAY, MAY 11, 1993

Mr. Chairman, and distinguished members of the Subcommittee, I am pleased to have the opportunity to appear before you today to discuss our budget proposal for the Washington Metropolitan Area Transit Authority's (WMATA) fiscal year 1994 Metrorail construction program.

Our proposal for Federal funding of Metrorail construction in FY 1994 totals $200 million which is derived entirely from the $1.3 billion authorized under the National Capital Transportation Amendments of 1990. This funding level is consistent with the financial requirements of WMATA's "Fast Track" construction program which anticipates equal annual Federal appropriations of $200 million over the five year period from 1994 to 1998. A small balance of funding in fiscal year 1999 would exhaust the $1.3 billion authorization.

The Administration supports this program because of the potential savings of $500 to $600 million of inflationary costs which potentially could be avoided through "fast tracking" the Metrorail construction program.

During the current fiscal year we concluded funding under the $1.7 billion "Stark-Harris" authorization enacted in 1980 with approval of $16.1 million to complete 89.5 miles of the planned 103 mile Metrorail system. The final segment of the 89.5 mile system, the 7.97 mile extension of the Green Line from Fort Totten in the District of Columbia to Greenbelt in Prince George's County, is scheduled to open for revenue operation on December 11, 1993.

Completion of these 89.5 miles is currently within the budget established in our 1986 Full Funding Grant Agreement with WMATA and is being finished on time, a very notable accomplishment in the field of rail transit construction.

The balance of the 103 mile Metrorail system, which consists of four extensions totalling 13.5 miles, will be funded under the $1.3 billion authorization of 1990. We have during this fiscal year, and in FY 1992, completed full funding agreements with WMATA covering the Franconia-Springfield, Glenmont and Inner-City extensions. These agreements provide a commitment to WMATA of $727.4 million in Federal funds to complete three of the four extensions. We expect that upon completion of engineering and environmental activities on the final extension of the system, the 6.42 mile line from Anacostia in the District to Branch Avenue in Prince George's County, we will be able to conclude the last full funding agreement sometime in FY 1994 which will commit the total $1.3 billion authorization.

Thus, the $200 million we are proposing for Metrorail in FY 1994 will be utilized for construction activities on all four segments of the remaining 13.5 mile rail construction program.

Based on WMATA's excellent cost and schedule performance under our 1986 full funding agreement for completion of the 89.5 mile portion of the 103 mile Metrorail system, I am confident that both the Administration and the Congress can expect an equally well managed construction program for the remaining 13.5 miles.

In that regard, I must compliment the Authority for their recent initiatives in expeditiously managing Federal resources available under our Section 3 and 9 formula capital assistance programs as well as the rail construction authorization. These Federal funds have been committed and put under contract as quickly as possible which has certainly benefitted employment and the economy.

In addition, WMATA has undertaken an effort to resolve long outstanding rail construction claims by contractors which has resulted in the identification of funds which can be applied to actual construction activities rather than held for potential claims liabilities.

I believe that the Authority has improved an already excellant construction management effort.

Mr. Chairman, this concludes my prepared statement. I would be pleased to respond to questions.

STATEMENT BY

DAVID L. GUNN

GENERAL MANAGER

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

CHAIRMAN CARR AND MEMBERS OF THE SUBCOMMITTEE, I AM PLEASED TO HAVE THE OPPORTUNITY TO PRESENT THE AUTHORITY'S FY1994 RAIL CONSTRUCTION REQUEST AND TO PROVIDE YOU WITH AN OVERVIEW OF OUR OPERATING AND CAPITAL IMPROVEMENT BUDGETS. IN VIEW OF THE NEW MEMBERS OF THE SUBCOMMITTEE AND THE MANY CHANGES THAT HAVE OCCURRED AT METRO OVER THE PAST FEW YEARS, I WANT TO TAKE A MOMENT TO OUTLINE HOW METRO IS POSITIONED TO TAKE ON THE CHALLENGES OF THE NINETIES.

OUR APPROACH EMBODIES THE PRINCIPLES OF PRUDENT FISCAL MANAGEMENT AND THE APPLICATION OF SOUND LONG-TERM INVESTMENT CRITERIA WHICH YOU ADVOCATE FOR ALL FEDERALLY FUNDED HIGHWAY AND TRANSIT PROJECTS. WE APPLAUD YOUR EFFORTS NOT ONLY BECAUSE IT VERY MUCH REFLECTS OUR MANAGEMENT PHILOSOPHY, BUT ALSO BECAUSE IT GIVES THE PUBLIC ASSURANCES THAT SOUND FINANCIAL ANALYSIS AND REALISTIC BUDGETS GUIDE ALL PROJECTS.

OVERVIEW AND APPROACH

THE COMBINATION OF THE STAGNANT REGIONAL ECONOMY, RIDERSHIP LEVELS WHICH RECENTLY HAVE BEEN GROWING ONLY AS WE OPEN NEW SEGMENTS, THE OLDER PORTION OF THE RAIL SYSTEM THAT IS REACHING MATURITY WHILE WE ARE STILL EXPANDING, AND A BUS FLEET THAT IS AMONG THE OLDEST IN THE COUNTRY HAS FORCED METRO TO MANAGE LIMITED RESOURCES AS PRUDENTLY AS POSSIBLE. OVER THE PAST FEW YEARS THE METRO BOARD OF DIRECTORS AND MANAGEMENT HAVE TAKEN A NUMBER OF DIFFICULT, BUT NECESSARY, STEPS TO TRIM THE ORGANIZATION WHILE MAINTAINING QUALITY SERVICE IN TIGHT ECONOMIC TIMES.

WHILE OUR PRIMARY PURPOSE TODAY IS TO DISCUSS THE AUTHORITY'S FY1994 FEDERAL APPROPRIATIONS REQUEST OF $212 MILLION FOR METRORAIL CONSTRUCTION, IT IS INSTRUCTIVE TO EXAMINE OUR OPERATING, CAPITAL IMPROVEMENT AND CONSTRUCTION BUDGETS. IN OUR THREE BUDGETS THE FOCUS IS ON MAINTAINING QUALITY SERVICE, PRESERVING EXISTING CAPITAL ASSETS, AND COMPLETING THE 103-MILE SYSTEM AS RAPIDLY AS POSSIBLE. EACH OF THESE BUDGETS IS BEING MANAGED WITH STRICT COST CONTROL MEASURES.

OPERATING BUDGET

THE AUTHORITY'S FY1994 PROPOSED OPERATING BUDGET OF $615 MILLION AVOIDS A FARE INCREASE. THE PROPOSED OPERATING BUDGET HAS BEEN APPROVED BY THE WMATA BOARD AND THE LOCAL JURISDICTIONS. WE PROJECT NO OVERALL GROWTH IN SYSTEM RIDERSHIP, EXCEPT RELATED TO THE OPENING OF RAIL SERVICE TO GREENBELT AT THE END OF THIS YEAR. ALTHOUGH THE LOCAL SUBSIDY INCREASE OVER 1993 IS HELD TO 2 PERCENT, THE LOCAL GOVERNMENTS IN THIS REGION WILL BE PAYING $294 MILLION IN 1994 TO COVER METRO OPERATING COSTS NOT RECOVERED FROM FAREBOX REVENUES AND OTHER SOURCES.

OUR SYSTEMWIDE COST RECOVERY RATIO IS 53.5 PERCENT, ONE OF THE BEST IN THE COUNTRY. MAINTAINING OUR COST RECOVERY RATIO AND LIMITING SUBSIDY GROWTH IS VERY DIFFICULT DUE TO THE CONTINUED STAGNATION OF THE REGIONAL ECONOMY, WHICH IN TURN LIMITS THE POSSIBILITIES FOR RIDERSHIP AND REVENUE GROWTH. OUR 1994 OPERATING COSTS ARE PROJECTED TO RISE BY $12 MILLION, OR 1.8 PERCENT, A RATE LOWER THAN INFLATION, DESPITE ADDITIONAL COSTS ASSOCIATED WITH OPENING A NEW LINE TO GREENBELT AND ADDING 4 NEW STATIONS AND 8 MILES OF TRACK.

OUR OPERATING BUDGET HAS THE FOLLOWING KEY OBJECTIVES:

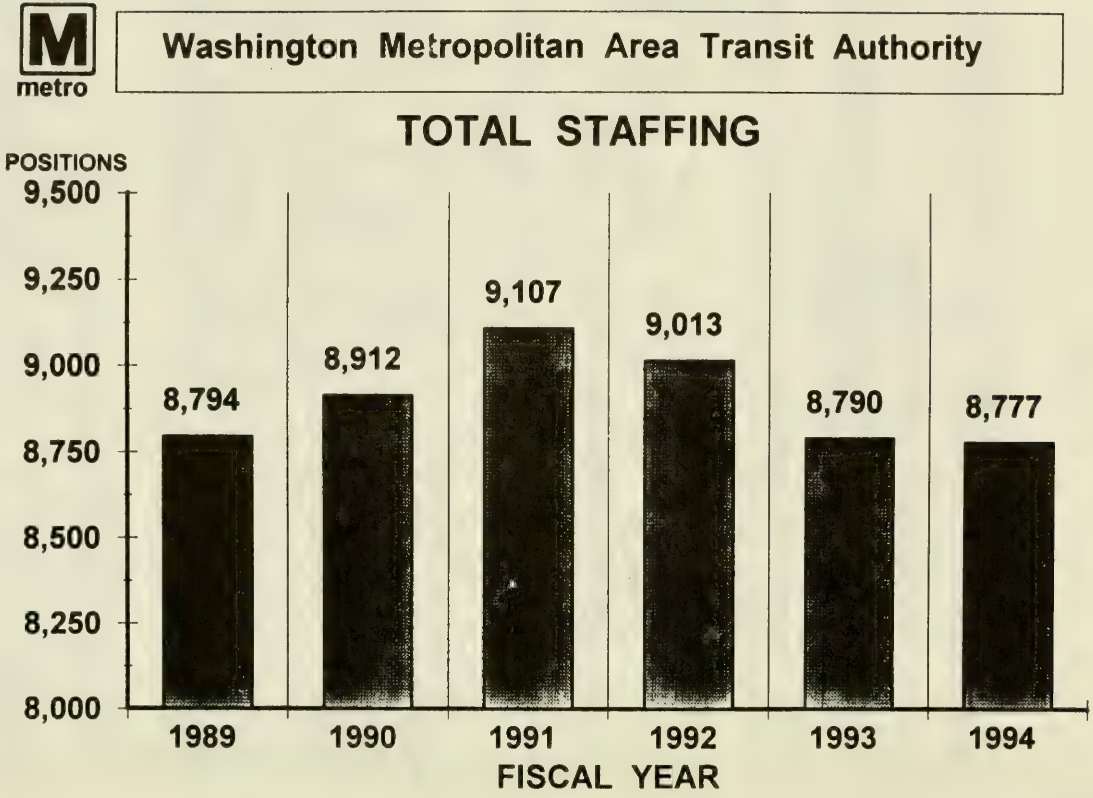
- MAINTAIN HIGH QUALITY SERVICE;
- PROVIDE SUPPORT FOR CAPITAL IMPROVEMENT AND RAIL CONSTRUCTION PROJECTS;
- OPEN RAIL SERVICE TO GREENBELT IN DECEMBER 1993;
- INCREASE RIDERSHIP THROUGH TARGETED ADVERTISING, INTRODUCING NEW PASSES AND EXPANDING THE USE OF EMPLOYER PROVIDED TRANSIT BENEFITS THROUGH METROPOOL AND METROCHEK;
- PERFORM IN-HOUSE ELEVATOR AND ESCALATOR MAINTENANCE AT CONSIDERABLE SAVINGS.

AS SHOWN ON CHART 1, STAFFING FOR 1994 WILL BE 8,777 POSITIONS, THE LOWEST LEVEL SINCE 1989, EVEN THOUGH WE WILL HAVE ADDED 13 STATIONS AND 20 MILES OF TRACK. THIS REDUCTION WILL BE DONE WITHOUT DIMINISHING SERVICE QUALITY. STAFFING INCREASES ARE REQUIRED FOR THE EXTENSION OF RAIL SERVICE TO GREENBELT AND CONVERSION TO IN-HOUSE MAINTENANCE OF ELEVATORS AND ESCALATORS. THESE INCREASES ARE MORE THAN OFFSET BY POSITION REDUCTIONS DUE TO BUS SERVICE EFFICIENCIES, REDUCED ABSENTEEISM, AND ADMINISTRATIVE STAFF REDUCTIONS.

CAPITAL IMPROVEMENT PROGRAM (CIP)

THE AUTHORITY'S FY1994 CAPITAL IMPROVEMENT PROGRAM IS PART OF A LONG RANGE REHABILITATION PROGRAM DESIGNED TO ENSURE THAT THE SIZABLE PUBLIC INVESTMENT IN METRO FACILITIES AND EQUIPMENT IS MAINTAINED TO CONTINUE HIGH QUALITY SERVICE DELIVERY AND LEVEL OF SAFETY. THE TOTAL COST FOR THE 1993 - 1998 CIP IS $823 MILLION.

CHART 1


Washington Metropolitan Area Transit Authority
metro
TOTAL STAFFING
POSITIONS
9,500
9,250
9,000
8,750
8,500
8,250
8,000
8,794
8,912
9,107
9,013
8,790
8,777
1989
1990
1991
1992
1993
1994
FISCAL YEAR

MUCH OF METRO'S RAIL AND BUS FLEET NEEDS TO BE REPLACED OR REBUILT. METROBUS INTEGRATED FOUR SEPARATE PRIVATELY OWNED COMPANIES INTO A UNIFIED REGIONAL NETWORK IN 1973, INHERITING AGING BUSES AND OBSOLETE FACILITIES. THE CURRENT AVERAGE AGE OF THE METROBUS FLEET (9.3 YEARS) IS ONE OF THE OLDEST IN THE COUNTRY, WITH 55 PERCENT OF OUR BUSES EXCEEDING THE INDUSTRY STANDARD OF 12 YEARS.

DURING ITS SEVENTEEN YEARS OF OPERATION, METRORAIL HAS GAINED THE REPUTATION AS ONE OF THE NATION'S PREMIER RAPID RAIL SYSTEMS. HOWEVER, AS IT CONTINUES TO AGE, METRORAIL CARS, YARDS AND SERVICE FACILITIES MUST BE REHABILITATED OR REPLACED TO MAINTAIN RELIABILITY AND SAFETY STANDARDS. THE 298 METRORAIL VEHICLES INITIALLY ACQUIRED FOR THE SYSTEM ARE NOW SEVENTEEN YEARS OLD AND MUST BE REBUILT TO AVOID A DECLINE IN SERVICE QUALITY AND TO CAPITALIZE ON TECHNOLOGICAL IMPROVEMENTS TO LOWER FUTURE OPERATING COSTS.

THE WMATA BOARD OF DIRECTORS HAS ESTABLISHED THE FOLLOWING CIP PRIORITIES:

- OVERHAUL THE 298 OLDEST RAIL CARS;
- MODERNIZE THE METROBUS FLEET BY REPLACING 700 OVERAGED VEHICLES AND DECREASING THE AVERAGE AGE OF THE FLEET TO 6.1 YEARS BY FY1998; AND
- REPLACE THE INADEQUATE 60 YEAR OLD SOUTHEAST BUS GARAGE.

THE IDENTIFICATION OF SUFFICIENT FUNDING TO MEET THESE OBJECTIVES HAS PRESENTED A SIGNIFICANT CHALLENGE. DELAYING CIP PROJECTS RISKS A DETERIORATION OF SERVICE AND ULTIMATELY RESULTS IN HIGHER COSTS.

AS CHART 2 SHOWS, WE ARE FACING A SHORTFALL OF $149 MILLION IN FUNDING FOR OUR LONG RANGE CIP PROGRAM. LAST YEAR, TRANSIT UNDER THE INTERMODAL SURFACE TRANSPORTATION ACT (ISTEA) WAS FUNDED AT ONLY 69 PERCENT OF AUTHORIZED LEVELS -- A FUNDING GAP WHICH MUST BE CLOSED IF WMATA AND OTHER TRANSIT PROPERTIES ARE TO FINANCE CRITICAL MAINTENANCE AND REHABILITATION PROGRAMS THAT HAVE LONG BEEN UNDERFUNDED.

IN ADDITION TO SECTIONS 9 AND 3, THE AUTHORITY IS AGGRESSIVELY PURSUING FLEXIBLE FUNDING AVAILABLE TO MARYLAND, VIRGINIA AND THE DISTRICT OF COLUMBIA UNDER THE ISTEA ACT. IN FY1993, METRO RECEIVED $10 MILLION IN MATCHED FLEXIBLE FUNDING FROM THESE JURISDICTIONS THAT IS BEING USED TO PURCHASE 50 BUSES EQUIPPED WITH POLLUTION CONTROL DEVICES. FOR FY1994, THE AUTHORITY HAS REQUESTED $25 MILLION IN MATCHED FLEXIBLE FUNDING FROM THE GOVERNMENTS IN THIS REGION. DESPITE THEIR SEVERE FISCAL LIMITATIONS, WE ARE REASONABLY OPTIMISTIC THAT WE WILL BE ABLE TO SECURE THE REQUESTED FLEXIBLE ISTEA FUNDS FOR FY1994 AND PURCHASE ADDITIONAL LOW EMISSIONS BUSES.

METRO'S HEALTH IS AT A CROSSROADS AND DECISIONS MADE TODAY WILL HAVE SIGNIFICANT CONSEQUENCES FOR THE FUTURE QUALITY OF METRO SERVICE. UNDERINVESTMENT IN REHABILITATION AT THIS POINT COULD HAVE THE EFFECT OF SERIOUSLY ERODING OUR SERVICE LEVEL. I URGE YOU TO PROVIDE FULL APPROPRIATIONS UNDER THE ISTEA ACT TO ENABLE METRO TO CARRY OUT ITS CAPITAL IMPROVEMENT PROGRAM AND TO HELP OTHER TRANSIT AUTHORITIES MEET EQUALLY IMPORTANT NEEDS.

FAST TRACK CONSTRUCTION PROGRAM

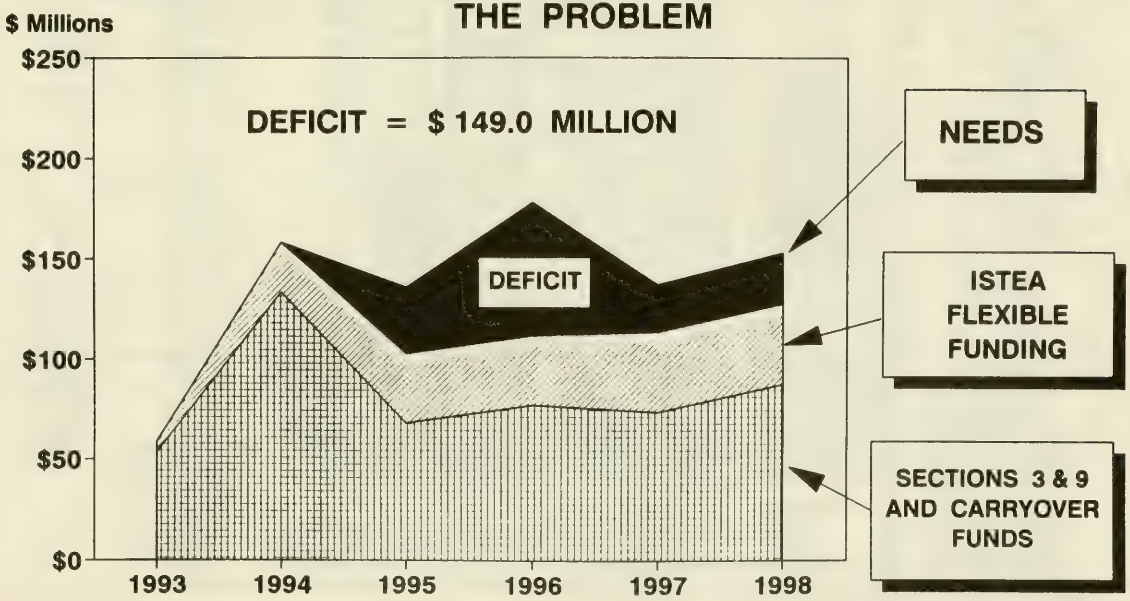
THE FAST TRACK RAIL CONSTRUCTION PROGRAM THAT I PRESENTED TO THIS SUBCOMMITTEE IN GREAT DETAIL LAST YEAR IS ON SCHEDULE AND WITHIN BUDGET. I WOULD LIKE TO PROVIDE YOU WITH A STATUS REPORT ON THE MAJOR

CHART 2

Washington Metropolitan Area Transit Authority

CAPITAL IMPROVEMENT PROGRAM
FISCAL 1993 - 1998

THE PROBLEM



MILESTONES WE ACHIEVED THIS YEAR. OUR FY1994APPROPRIATIONS REQUEST IS FOR $212 MILLION, ALL OF WHICH WILL BE DEVOTED TO COMPLETION OF THE 103 MILE RAIL SYSTEM, IN ACCORDANCE WITH OUR FULL FUNDING AGREEMENTS.

STATUS OF FAST TRACK

I WOULD LIKE TO TAKE A MOMENT TO REVIEW THE FAST TRACK PLAN OBJECTIVES AND TO REPORT ON HOW WE ARE DOING IN MEETING THESE OBJECTIVES.

THE GOAL OF FAST TRACK IS TO COMPLETE THE REMAINING 13.5 MILES OF THE 103 MILE METRORAIL SYSTEM WITHIN THE $1.3 BILLION FEDERAL AUTHORIZATION, PLUS LOCAL MATCH. IMPORTANTLY, THE 1990 METRO REAUTHORIZATION SET THE LOCAL SHARE FOR METRORAIL CONSTRUCTION AT 37.5 PERCENT, AND THE FEDERAL SHARE AT 62.5 PERCENT. THIS LEGISLATION CONSTITUTES A RATHER SIGNIFICANT "OVERMATCH" FROM THIS REGION AND REAFFIRMS CONGRESS' COMMITMENT TO COMPLETION OF THE FULL 103-MILE METRORAIL SYSTEM IN A CONTINUING FEDERAL - LOCAL PARTNERSHIP. THE LEGISLATION ENVISIONS THAT FEDERAL APPROPRIATIONS WILL BE PROVIDED AT A STABLE LEVEL OF $200 MILLION ANNUALLY. THE APPROPRIATIONS NEEDED TO SUPPORT THE FAST TRACK PROGRAM ARE DEPICTED IN CHART 3.

FAST TRACK SAVES $600 MILLION OVER THE LIFE OF THE PROJECT IN INFLATION, INSURANCE AND OTHER OVERHEAD COSTS. THE MOST IMPORTANT PRINCIPLES OF THE FAST TRACK PLAN ARE:

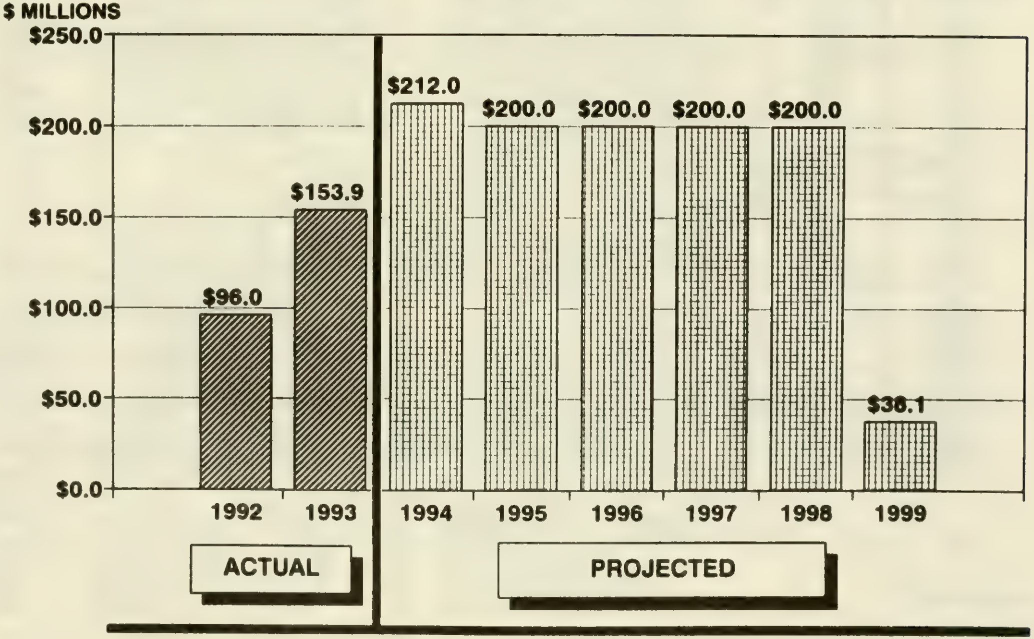
- FEDERAL AND LOCAL FUNDS WILL BE AVAILABLE IN ACCORDANCE WITH A DEFINED SCHEDULE TO SUPPORT THE PROGRAM;
- EVERY ASPECT OF THE PROGRAM IS ACCELERATED TO ITS OPTIMUM LEVEL;

CHART 3

Washington Metropolitan Area Transit Authority

metro

FAST TRACK FEDERAL APPROPRIATIONS



- NO ALIGNMENT CHANGES AFTER THE START OF FINAL DESIGN;
- AGGRESSIVE PURSUIT OF COST AND TIME SAVINGS;
- INNOVATIVE CONSTRUCTION TECHNIQUES; AND
- CONCURRENT CONSTRUCTION ON MULTIPLE SEGMENTS.

THIS APPROACH NECESSITATES A STRONG EMPHASIS ON BUDGET AND SCHEDULE. THE BUDGET (IN MATCHED DOLLARS) AND REVENUE OPERATING DATES FOR THE FOUR OPERATING LINES ARE PRESENTED IN CHART 4. EACH RAIL SEGMENT IS A SEPARATE PROJECT WITH A SEPARATE FULL FUNDING AGREEMENT, BUDGET, PROJECT MANAGER AND STAFF. THE PROJECT MANAGER HAS COMPLETE RESPONSIBILITY FOR BRINGING THE PROJECT INTO SERVICE WITHIN BUDGET AND ON SCHEDULE.

FINANCING FAST TRACK

IN ORDER TO FULFILL THE REQUIREMENTS OF THE INTERSTATE COMPACT GOVERNING THE AUTHORITY, FUNDS MUST BE AVAILABLE BEFORE ANY CONTRACTS ARE AWARDED, THUS OBLIGATING THE AUTHORITY. SINCE OBLIGATION RATES DURING PEAK CONSTRUCTION YEARS WILL SIGNIFICANTLY EXCEED THE $200 MILLION PER YEAR APPROPRIATIONS RATE, THE ABILITY TO BORROW CAPITAL IN ANTICIPATION OF FUTURE APPROPRIATIONS IS ESSENTIAL. AN INNOVATIVE PRIVATE SECTOR FINANCING PLAN IS BEING UNDERTAKEN.

WE HAVE PUT INTO PLACE OVER THE PAST YEAR SEVERAL ITEMS THAT ARE NEEDED TO SECURE FINANCING FOR THE FAST TRACK PLAN, INCLUDING:

- AN INTERIM CAPITAL CONTRIBUTIONS AGREEMENT V (ICCA-V) HAS BEEN EXECUTED BY ALL JURISDICTIONS

CHART 4

metro

Washington Metropolitan Area Transit Authority

CONSTRUCTION PROGRAM *FAST TRACK*

		PROJECT COST	OPENING DATE
BLUE:	FRANCONIA SPRINGFIELD	$ 230.1	Mid 1997
RED:	GLENMONT	290.9	Mid 1998
GREEN:	FORT TOTTEN	642.8	Late 1999
GREEN:	BRANCH AVENUE	900.8	Early 2001
	Operations Control Center Expansion	5.0	Late 1994

	TOTAL COST	$ 2,069.6	

$ Millions

AND THE AUTHORITY WHICH COMMITS THE PARTIES TO COMPLETION OF THE 103-MILE ADOPTED REGIONAL SYSTEM (ARS), INCLUDING PROVIDING MATCHING FUNDS FOR FEDERAL GRANTS.

- LOCAL FUNDING AGREEMENTS WITH THE AUTHORITY HAVE BEEN EXECUTED BY EACH JURISDICTION, COMMITTING EACH TO ITS LOCAL SHARE OF CAPITAL CONTRIBUTIONS SUFFICIENT TO COMPLETE THE 103-MILE ARS UNDER THE "FAST TRACK" CONSTRUCTION PROGRAM.

- FULL FUNDING AGREEMENTS HAVE BEEN EXECUTED BY THE AUTHORITY AND THE FEDERAL TRANSIT ADMINISTRATION PROVIDING FOR THE FUNDING AND CONSTRUCTION OF THREE OF THE FOUR REMAINING LINE SEGMENTS: THE FRANCONIA/SPRINGFIELD LINE IN VIRGINIA, THE GLENMONT LINE IN MARYLAND AND THE MID-CITY LINE IN THE DISTRICT OF COLUMBIA. THESE AGREEMENTS PROVIDE THAT IF FEDERAL APPROPRIATIONS DO NOT REMAIN AT STABLE LEVELS APPROXIMATING $200 MILLION ANNUALLY, THE AGREEMENTS MAY BE RENEGOTIATED. THE FOURTH AND FINAL FULL FUNDING AGREEMENT FOR THE BRANCH AVENUE LINE IN THE DISTRICT AND MARYLAND WILL BE EXECUTED WHEN THE ENVIRONMENTAL IMPACT STATEMENT PROCESS IS CONCLUDED.

- WE ARE NEGOTIATING WITH A CONSORTIUM OF BANKS ON A LINE OF CREDIT FOR UP TO $750 MILLION TO GIVE US THE CAPABILITY TO ENTER INTO CONTRACTS IN ADVANCE OF FEDERAL APPROPRIATIONS AND TO BORROW LIMITED AMOUNTS TO PAY CONTRACTORS IN ADVANCE OF RECEIPT OF FEDERAL FUNDS. THIS WILL PERMIT US TO CONTINUE TO BUILD ON THE OPTIMAL CONSTRUCTION SCHEDULE WHILE ALLOWING THE CONGRESS TO APPROPRIATE AT THE $200 MILLION ANNUAL RATE, AS RECOMMENDED IN THE ADMINISTRATION'S FY94 BUDGET REQUEST. IT IS

CRITICAL TO THIS FUNDING ARRANGEMENT THAT FEDERAL FUNDS BE PROVIDED AS PROJECTED, SINCE IT IS THAT STEADY AND PREDICTABLE RATE THAT UNDERPINS THE BANKS' WILLINGNESS TO EXTEND CREDIT; AND IT IS THE TIMELY RECEIPT OF FEDERAL FUNDS WHICH ALLOWS US TO REPAY THE CASH BORROWING UNDER THIS CREDIT FACILITY.

FY 1993 APPROPRIATIONS

THE FY 1993 APPROPRIATION OF $170 MILLION INCLUDES $16.1 MILLION UNDER THE STARK-HARRIS AUTHORIZATION. THE STARK-HARRIS FUNDS WILL BE USED TO COMPLETE THE GREENBELT LINE, SCHEDULED TO OPEN IN LATE 1993. THE OPENING OF THE GREENBELT LINE WILL BRING THE OPERATING SYSTEM TO 89.5 MILES.

DURING THE PAST YEAR WE HAVE MADE SIGNIFICANT PROGRESS IN REDUCING COSTS, TO STAY WITHIN OUR BUDGET:

- OUR NEW PROJECT MANAGEMENT ORGANIZATION HAS REDUCED COSTS BY ELIMINATING 105 CONSTRUCTION RELATED POSITIONS;

- WE HAVE AGGRESSIVELY REDUCED THE BACKLOG OF CONSTRUCTION CLAIMS AND CONTRACT CLOSE OUTS. BY CLOSING OUT MORE THAN 120 CONTRACTS, WE HAVE FREED UP SEVERAL MILLION DOLLARS TO PAY FOR PREVIOUSLY UNFUNDED REQUIREMENTS IN THE 89.5 MILE BUDGET;

- WE HAVE INSISTED THAT PROJECTS BE DESIGNED TO BUDGET AND REQUIRED REDESIGN WHEN NECESSARY. CONSTRUCTION CONTRACT BIDS ARE NOW CONSISTENTLY ON OR UNDER BUDGET;

- WE HAVE ELIMINATED ALL NON-ESSENTIAL FEATURES OF THE REMAINING CONSTRUCTION WORK.

ALTHOUGH THE COURT DECISIONS FOR SOME PENDING CLAIMS COULD HAVE A SIGNIFICANT IMPACT ON THE 89.5 MILE SYSTEM COSTS, AT THIS TIME WE ARE CONFIDENT THAT WE WILL COMPLETE THIS PORTION OF THE SYSTEM WITHIN BUDGET.

STATUS OF THE 103 MILE SYSTEM

THE FAST TRACK PROGRAM FOR COMPLETION OF THE 103 MILE SYSTEM IS ON SCHEDULE AND WITHIN BUDGET. DURING THE PAST YEAR, WE HAVE MADE EXCELLENT PROGRESS ON EACH SEGMENT.

FRANCONIA-SPRINGFIELD -- WE BROKE GROUND ON THIS SEGMENT IN NOVEMBER 1992. CONTRACTS HAVE BEEN AWARDED FOR LINE GRADING AND SITE PREPARATION. THE PARKING STRUCTURE DESIGN IS NEARING COMPLETION AND WE WILL BEGIN PURCHASES OF RAIL THIS SUMMER. CONSTRUCTION ON THE STATION WILL BEGIN IN NOVEMBER OF THIS YEAR.

WHEN THIS SEGNENT OPENS IN 1997 WE EXPECT TO SEE A DRAMATIC INCREASE IN RIDERSHIP DRAWING TRAFFIC OFF THE CONGESTED I-95/395 CORRIDOR.

GLENMONT -- CONSTRUCTION ON THE TUNNELS WILL BEGIN IN JULY 1993; CONSTRUCTION ON THE STATION WILL COMMENCE IN NOVEMBER 1993. THE ENVIRONMENTAL ASSESSMENT FOR THE YARD HAS BEEN APPROVED BY FTA, AND FINAL DESIGN OF THE YARD WILL BE COMPLETED IN LATE 1993. REAL ESTATE ACQUISITION IS UNDERWAY.

WITH THE COMPLETION OF THE GLENMONT YARD, OUR OPERATING COSTS WILL BE DECREASE AS WE REDUCE DEADHEAD MILEAGE.

U STREET TO FORT TOTTEN -- THE FINAL SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT (EIS) HAS BEEN COMPLETED AND APPROVED BY FTA. FINAL

DESIGN AND PRELIMINARY REAL ESTATE ACQUISITION ARE UNDERWAY. A CONTRACT HAS BEEN APPROVED BY OUR BOARD TO RELOCATE ENGINE COMPANY 24, WHICH CURRENTLY SITS ON OUR PLANNED STATION SITE.

CLOSING THE GAP BETWEEN FORT TOTTEN AND U STREETS WILL ENABLE US TO SERVE NEW MARKETS AND GIVE GREEN LINE RIDERS A THROUGH TRIP TO DOWNTOWN WASHINGTON, WITHOUT BEING FORCED TO TRANSFER AT FORT TOTTEN. OPENING THIS LINK WILL REDUCE OUR OPERATING COSTS AS WE ELIMINATE THE "SHUTTLE" FROM FORT TOTTEN TO GREENBELT.

BRANCH AVENUE -- PUBLIC HEARINGS ON THE DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT WERE HELD IN JANUARY OF THIS YEAR. WMATA BOARD AND FTA APPROVAL ARE EXPECTED LATER THIS YEAR. WE ARE NEARING COMPLETION OF GENERAL PLANS AND WILL HOLD PUBLIC HEARINGS ON THE PLANS THIS SUMMER.

BY OPENING THE BRANCH AVENUE LINE, WE WILL BE ABLE TO SERVE THE FEDERAL WORKFORCE AT ANDREWS AIR FORCE BASE, THE U.S. BUREAU OF THE CENSUS, THE U.S. NAVY, THE SMITHSONIAN, AND THE SUITLAND FEDERAL CENTER.

FY 1994 APPROPRIATIONS REQUEST

AS INDICATED EARLIER IN MY STATEMENT, THE AUTHORITY IS REQUESTING $212 MILLION IN FY 1994 APPROPRIATIONS FOR RAIL CONSTRUCTION. THIS REFLECTS THE $200 MILLION APPROPRIATION WE HAD FORECAST FOR THIS YEAR, PLUS THE $12 MILLION OF THE FY1993 ADMINISTRATION REQUEST SUPPORTED BY THE AUTHORITY THAT WAS NOT APPROPRIATED BY CONGRESS.

THE FY 1994 APPROPRIATION WILL BE USED FOR THE FOLLOWING ACTIVITIES:

FRANCONIA-SPRINGFIELD -- PROCURING AND INSTALLING AUTOMATIC TRAIN CONTROL, ELECTRICAL POWER EQUIPMENT, COMMUNICATIONS, ESCALATORS AND STATION EQUIPMENT;

GLENMONT -- CONTINUING CONSTRUCTION OF THE GLENMONT STATION, CONNECTING LINE, AND RAILCAR STORAGE YARD;

U STREET TO FORT TOTTEN -- COMPLETING REAL ESTATE ACQUISITION, AND BEGINNING CONSTRUCTION OF TWO TUNNEL LINE SEGMENTS AND THREE STATIONS;

BRANCH AVENUE -- COMPLETING REAL ESTATE ACQUISITION.

AS SHOWN IN CHART 5, BY THE END OF FEDERAL FISCAL 1994, WE WILL HAVE RECEIVED $742 MILLION IN FEDERAL AND LOCAL FUNDS, FOR THE FAST TRACK PROGRAM AND EXPECT TO HAVE OBLIGATED OVER $1 BILLION IN TOTAL FUNDS, OR ROUGHLY HALF THE TOTAL PROJECT COST. THE DIFFERENCE BETWEEN THE TWO AMOUNTS REPRESENTS THE LONG TERM LINE OF CREDIT WE WILL NEED TO SECURE BY OCTOBER 1993 TO AWARD FUTURE CONTRACTS. WITH AN APPROPRIATION OF $212 MILLION IN FY 1994, WE WILL BE ABLE TO ASSURE FINANCIAL INSTITUTIONS OF THE CONTINUED FEDERAL COMMITMENT TO COMPLETE THE 103 MILE SYSTEM.

I WOULD LIKE TO TAKE A MOMENT TO THANK THIS ADMINISTRATION, AND BOB MCMANUS IN PARTICULAR, FOR THEIR WILLINGNESS TO SUPPORT THE INNOVATIVE FAST TRACK APPROACH. THIS ADMINISTRATION'S SIGNING OF THREE FULL FUNDING AGREEMENTS AND ITS FY1994 BUDGET REQUEST OF $200 MILLION FOR METRORAIL CONSTRUCTION, IN CONCERT WITH THE CONGRESS AND THE REGION, HAS ENABLED US TO GET THE FAST TRACK PROGRAM UNDERWAY. WE REMAIN CONVINCED THAT THIS APPROACH IS THE LEAST COSTLY WAY OF CONSTRUCTING A QUALITY SYSTEM WITHIN LIMITED FUNDS.

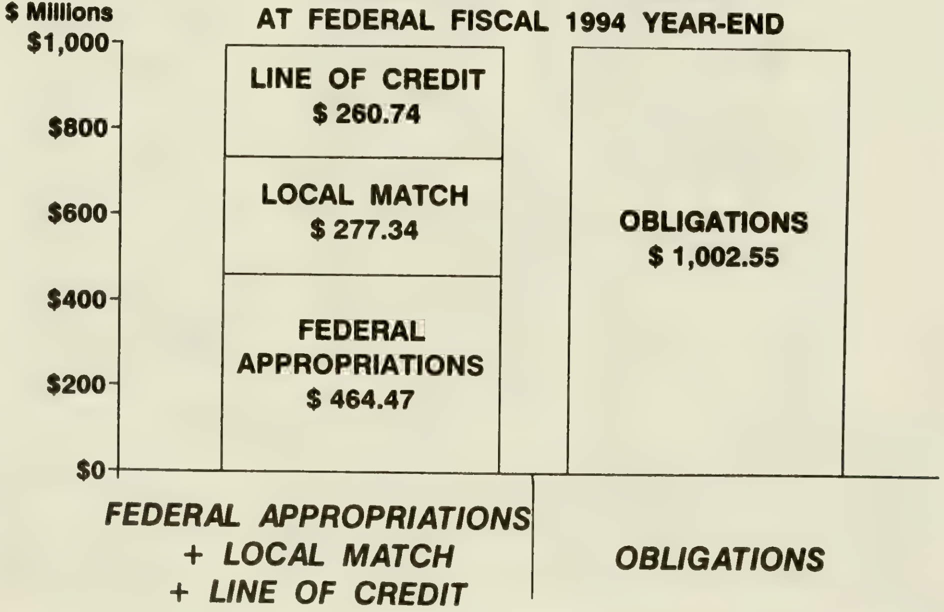
CHART 5

metro

Washington Metropolitan Area Transit Authority

CONSTRUCTION PROGRAM *FAST TRACK*

OBLIGATIONS AND FUNDING AT FEDERAL FISCAL 1994 YEAR-END

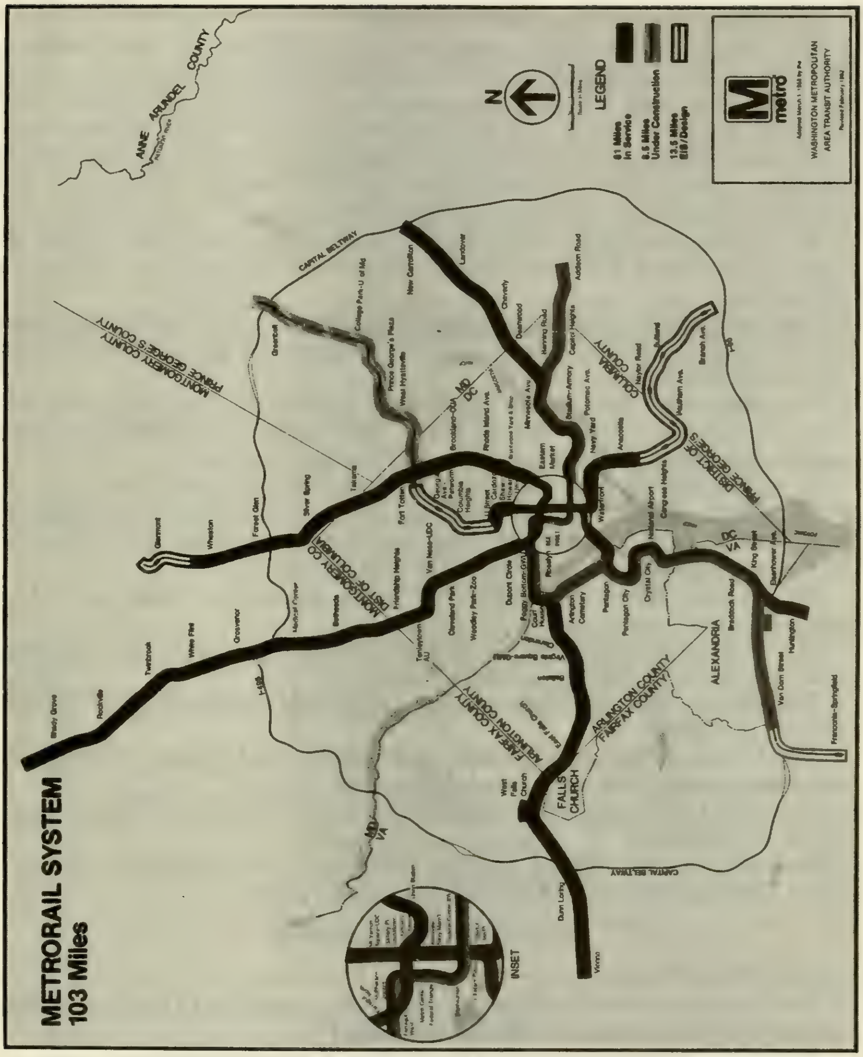


CONCLUSION

LAST YEAR I TESTIFIED THAT THE SUCCESS OF THE FAST TRACK PROGRAM IS CONTINGENT ON THE CONTINUED PARTNERSHIP OF THE FEDERAL, STATE AND LOCAL GOVERNMENTS THAT HAVE SUPPORTED METRO FROM ITS INCEPTION, COUPLED WITH SUFFICIENT AND PREDICTABLE FUNDING. THE FACT THAT WE NOW HAVE FULL FUNDING AGREEMENTS FOR THREE OF THE FOUR REMAINING LINES AND FIRM COMMITMENTS FOR MATCHING FUNDS FROM THE LOCAL JURISDICTIONS IS EVIDENCE THAT THE LONGSTANDING FEDERAL/REGIONAL PARTNERSHIP DEDICATED TO COMPLETION OF THE 103 MILE SYSTEM ENDURES.

IN THE FUTURE, THE MOST CRITICAL ELEMENT NEEDED TO KEEP THE FAST TRACK PROGRAM PROGRESSING IS REGULAR FEDERAL APPROPRIATIONS AT THE $200 MILLION LEVEL. THE CONTINUED SUPPORT OF THE ADMINISTRATION AND THE CONGRESS WILL ENABLE US TO SECURE A LONG TERM LINE OF CREDIT TO KEEP THE FAST TRACK PROGRAM ON SCHEDULE AND WITHIN BUDGET.

WE GREATLY APPRECIATE THIS SUBCOMMITTEE'S PAST SUPPORT. WE ARE CONFIDENT YOU WILL AGREE THAT ADOPTING APPROPRIATIONS LEVELS AS PROPOSED IN OUR FAST TRACK BUDGET WILL COMPLETE THE 103 MILE SYSTEM IN THE QUICKEST WAY PRACTICABLE WITHIN AUTHORIZED LEVELS. CLEARLY, THE $600 MILLION IN SAVINGS TO THE TAXPAYER FROM THIS APPROACH IS WORTHY OF THIS UPFRONT INVESTMENT. I WOULD BE PLEASED TO ANSWER ANY QUESTIONS.


METRORAIL SYSTEM
103 Miles
LEGEND
61 Miles In Service
8.5 Miles Under Construction
13.5 Miles EIS/Design
N
metro
WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
ANNE ARUNDEL COUNTY
MONTGOMERY COUNTY
PRINCE GEORGE'S COUNTY
DIST OF COLUMBIA
MONTGOMERY CO
DISTRICT OF COLUMBIA
ARLINGTON COUNTY
FAIRFAX COUNTY
FALLS CHURCH
ALEXANDRIA
CAPITAL BELTWAY
MD
DC
VA
INSET
Shady Grove
Rockville
Twinbrook
White Flint
Grosvenor
Medical Center
Bethesda
Friendship Heights
Tenleytown AU
Van Ness-UDC
Cleveland Park
Woodley Park-Zoo
Dupont Circle
Glenmont
Wheaton
Forest Glen
Silver Spring
Takoma
Fort Totten
Georgia Ave.-Petworth
Columbia Heights
Brookland-CUA
Rhode Island Ave.
Greenbelt
College Park-U of Md
Prince George's Plaza
West Hyattsville
New Carrollton
Landover
Cheverly
Deanwood
Minnesota Ave.
Addison Road
Capitol Heights
Benning Road
Stadium-Armory
Potomac Ave.
Eastern Market
Navy Yard
Anacostia
Waterfront
Congress Heights
Naylor Road
Suitland
Branch Ave.
Southern Ave.
Foggy Bottom-GWU
Rosslyn
Court House
Clarendon
Virginia Square-GMU
Ballston
East Falls Church
West Falls Church
Dunn Loring
Vienna
Arlington Cemetery
Pentagon
Pentagon City
Crystal City
National Airport
Braddock Road
King Street
Eisenhower Ave.
Huntington
Van Dorn Street
Franconia-Springfield
I-495
I-95

OPERATING COSTS

Mr. WOLF. Thank you, Mr. Chairman.

Mr. Gunn, I have some questions that I will try to come back to, but I have a 2:30 appointment. I wanted to be here as your supporter and make sure there is somebody that draws these matters out for the record so when this issue comes up, we will all understand.

In your statement you indicate Metro recovers 53.5 percent of operating costs at the fare box. This record is one of the best in the country. Would you elaborate a little bit on that?

Mr. GUNN. Actually, when you look at Metro you have to look at both the rail and the bus systems separately because they are quite different.

The rail system recovers almost 75 percent of its operating costs out of the fare box and the bus system recovers about a third of its operating costs.

For example, the cost of Metrorail service to the local jurisdictions is approximately $80 million. The local jurisdictions provide approximately $190 million annually for bus service.

It is not totally fair to make that comparison because about a third of our Metro rail riders do arrive by bus, either Metrobus, or bus service provided directly by the local jurisdictions. However, the Metrorail system is a very efficient operation.

Mr. WOLF. What percentage of your operating budget is labor cost?

Mr. GUNN. It is almost 80 percent. That includes labor, fringes, and all the costs associated with labor.

Mr. WOLF. Mr. McManus, how does that compare with major transit systems?

Mr. GUNN. In terms of transit authorities, that is the way the cost structure runs. It is very labor intensive.

Mr. WOLF. Do you have any comment on that, how Metro compares with others?

Mr. MCMANUS. There are 24 operators with revenues greater than $100 million and WMATA is number seven.

FAST TRACK CONSTRUCTION

Mr. WOLF. Thank you.

Mr. Gunn, on the fast track, how many years will the completion of the 103-mile system be fast forwarded?

Mr. GUNN. We have accelerated it by about five years.

Mr. WOLF. Five years.

Mr. GUNN. Yes, sir.

Mr. WOLF. It will be when versus when as previously scheduled?

Mr. GUNN. We will complete the Metrorail system in the year 2001. The Franconia-Springfield line will open in calendar year 1997.

Glenmont will open mid-1998. The Inner Green Line will be in revenue service in 1999. The Branch Avenue line is the last segment. It opens in late 2001. All of the construction would be slowed down under the old construction schedule; however, the Branch Avenue Line would not have opened until 2007.

Mr. WOLF. How much will be saved with the fast track schedule?

Mr. GUNN. With a rapid construction schedule, we estimate we will save $600 million over the life of the project.

Mr. WOLF. Six hundred million dollars?

Mr. GUNN. That is correct.

Mr. WOLF. You request $212 million this year, $12 million more than originally anticipated.

Mr. GUNN. When we first proposed the Fast Track Program, we projected budgets, schedules, and a funding stream. Last year we requested $182 million including Stark-Harris money. The FY 1993 appropriation was $170 million. The $12 million is to make up for the shortfall in last year's appropriation. Receipt of the $12 million will put us back on the funding schedule that the Fast Track Program is based upon.

Since the Fast Track Program is based on obligating funds quickly, the faster we receive appropriations the better because it lowers the cost of borrowing. The cost of borrowing is the primary impact of a shortfall in our appropriations, compared to our plan.

Mr. WOLF. What will the impact be if you don't get the $12 million?

Mr. GUNN. The impact would be an increase in the cost of borrowing $12 million until we finally receive the appropriation.

The actual cost is the interest rate times twelve million times the number of years until we make up the shortfall.

RAIL EXTENSIONS

Mr. WOLF. Let me cover, since both you and Mr. McManus are here, the other issue that I raised earlier on rail to Dulles.

Mr. GUNN. Yes.

Mr. WOLF. Would you elaborate on the record? You heard my questions.

Mr. GUNN. Yes, sir.

I can deal with both the proposed extensions. First of all, neither are Metro projects. That is neither the Addison Road extension, nor the Dulles extension are Metro projects.

I know very little about the Addison Road except generally where it is.

Mr. WOLF. How far is the Addison Road extension we are talking about?

Mr. GUNN. We are not actively involved in that at the present time. We are getting no requests for staff support at this time. But I think it is three miles, isn't it, Peter?

Mr. BENJAMIN. Yes.

DULLES RAIL POLICY COMMITTEE

Mr. GUNN. We are not actively involved in the Addison Road project. Virginia has asked us to provide technical support to their effort to study the Dulles Corridor. The WMATA board has taken a firm position that Metro's priority is to build and complete the 103-mile system. The Board will not support anything that interferes with our goal of completing the 103-mile system under the Fast Track Program.

My function on the Dulles Rail Policy Committee is to provide technical support. You referred to the meeting out in Virginia.

Mr. WOLF. I have read about the meeting in the paper.

Mr. GUNN. I was there.

Mr. WOLF. Was it a formal meeting?

Mr. GUNN. It was a formal meeting called by Secretary Milliken.

Mr. WOLF. Did you actually sign a document?

Mr. GUNN. No. This was a meeting of the Committee to provide comment. The Committee has no legal standing. It is simply to provide input.

At that Committee meeting, when you read the reports of it, it appeared that things are moving very rapidly, as you said. First of all, the comments at the Committee were that the study being undertaken is more likely to take two years rather than one year, or 11 months, as has been suggested. Because they have a tremendous amount of coordination to do with the local governments and with ourselves and the counties and so forth. Plus, they have to go through procurement and do a lot of analysis.

Mr. WOLF. I think they have selected a contractor, have they not?

Mr. GUNN. No. What they are doing, at that meeting the department of rail handed out a draft Request For Qualifications. They handed out the procurement procedure that Virginia is going to follow in getting the consultant on board, and their goal was to have the entire process, including the study, done in 11 months. That was in the original handout.

It was generally felt—certainly we believe—that that is way too optimistic. You are not going to accomplish an analysis of a project of that magnitude, select a consultant and have them do their work in 11 months. So as a result of the discussion, they will put not-to-exceed 24 months into the Request For Qualifications.

DULLES CORRIDOR OPTIONS

Mr. WOLF. How would you characterize Metro's feelings about rail in the Dulles corridor?

Mr. GUNN. Our strong position is if they are going to build rail, if somebody is going to make a decision to build rail, it should probably be Metrorail. We do not have a strong position on whether or not you can justify rail or not in the corridor.

But if it is rail, we believe strongly that it should be Metrorail and it is very important that it be tightly coordinated with Metro. Trying to connect at East Falls Church with Metrorail is a fairly easy connection. If you make it a transfer, i.e., light rail, for example, you have to then talk about a whole new station, an interchange at West Falls Church and it gets very complicated. Plus, we think having a consistent set of equipment, one type of car, the ability to use our overhead and our shops and the like is very important.

But we do not have a position on whether it should be rail or bus. I have been to Tysons Corner once and that is not a natural transit market, what has happened out there. It will be a very difficult market to serve. I don't know about the travel patterns to and from the airport.

Mr. WOLF. Yet, the proposal calls for looking to link into Tysons.

Mr. GUNN. They are going to look at it, yes. I just say it is going to be a difficult market to serve because of the way Tysons is developed. It is auto-dominated. You can't walk from Tysons I to Tysons II, for example, which is important.

With transit, the zoning and development has to be suitable. It may not be suitable when you build, but it has to eventually coalesce around the type of development suitable for transit, which is high density, the ability to walk and the ability to use buses. Right now, with the street layout at Tysons Corner, it is very difficult.

DULLES PARKING

Mr. WOLF. It was indicated to me in order to have Metro very quickly, you would have to have paid parking in the corridor, is that correct?

Mr. GUNN. I don't know that. We haven't gotten into that level of detail. All we have been looking at is just the interface with the rail system if a rail extension occurred. Maybe the staff has thought about it, but we have not done detailed analysis of the stations and the like.

Mr. WOLF. You are not working with the State of Virginia or Airport Authority to bring the Metro out?

Mr. GUNN. They will ask us questions, and we will answer the questions. We are not proponents or opponents of the project. Our position is if it is going to be rail, we think it should be Metrorail; if it is going to be Metrorail, you better talk to us to be sure the standards and construction and type of cars are proper. And that is where we fit into the project.

BUS ALTERNATIVES IN DULLES CORRIDOR

Mr. WOLF. You have a lot of experience and I would respect your judgment.

Let me say for the record today, I think you have done a good job and when history looks back, I think people will judge you very, very favorably in your time here. I am sorry to see you go.

Do you think the concept of rail, which I think everyone agrees will eventually take place in the Dulles corridor—but how do you see this developing? Do you see getting Metro bus up, and good Park-and-Rides and developing reliability? How do you see this going?

Mr. GUNN. I don't have enough knowledge, Mr. Wolf, of the market itself to give you an intelligent prediction of what will happen. The only area I have actually looked at myself was Tysons Corner. I haven't gone out and gone up and down the corridor and tried to play the role of a planner myself.

But bus is a perfectly valid tool. I am not going to say it is not. In fact, in our industry, I think, we often overlook what you can do with a bus. There tends to be an infatuation with rail.

I am a railroad man myself. I know that. But I know the bus is a useful tool, too. But I am not saying it should be bus or it should be rail. You certainly wouldn't dismiss one or the other out of hand.

DULLES CORRIDOR TIMING

Mr. WOLF. What about the timing? Obviously you can have bus very quickly.

Mr. GUNN. When you talk about building a rail system, if you look at just Branch Avenue, for example, we have been moving fairly rapidly on Branch Avenue since 1991 and we are talking about having it in service in 2001. There is not a lot of fluff in that schedule.

About half of the schedule is taken up with the planning, the Environmental Impact Statement, preliminary engineering and then the final design. Construction can be done fairly quickly, relatively speaking. But to get a rail line to Dulles, if we started now, would take about ten years.

Mr. WOLF. That is if everything——

Mr. GUNN. If you were in accord and the Chairman and everybody else said, do it, we want it. That would be without changing the processes we have to go through. Don't you think 10 years?

Mr. MCMANUS. Yes.

Mr. GUNN. That is if things go well.

Mr. WOLF. Mr. McManus, would you want to comment on that? Then I have a question to ask you specifically if you would do it for me.

Mr. MCMANUS. I really don't have anything to add.

Mr. WOLF. Do you agree or disagree?

Mr. MCMANUS. I would agree with what Mr. Gunn has said.

Mr. WOLF. I would like you to furnish the committee for the record, but also I would like to have a copy as quickly as possible, an in-depth—when I say "in-depth" I mean detailed analysis—go back, tell us how many studies were done, the cost of them, tell us what the density would have to be to bring rail out there. Tell us where you have to have paid parking. Have somebody look and see based on what the State of Virginia is doing, how would they fund this, and whether it would be funded from the toll road.

Now they are talking about revenue from the toll road funding this. Would this require an increase in the tolls? Also take a look at what the prospective tolls are from Leesburg to Dulles Airport on the privately built toll road. I understand that there will be a $3 toll. If you would look at this and see how much the tolls would have to be increased.

Then if you could paint word pictures in the letter, and I don't want to lead you one way or the other. I think you know where I am, but I could be wrong. If you would paint a picture for us, what would you have to have at all the stops in terms of density. Would you have to have a Farragut Square or would you have to have a Shady Grove? What would be the ratio of office versus residential? Different factors like this, and maybe also take a look at some other systems.

If you could take an in-depth look at it, because I think you and Mr. Gunn—particularly you, since you are a national administrator—offer some perspective, and I want to know if I am right or if I am wrong, and I also want to have information to share with the people in the area.

I would like to—after I get this letter—send it out to the governing bodies in the corridor and let them know what is involved.

[The information follows:]

The type of development most desired around station area sites are clusters of mixed use, with emphasis on high density residential development which typically has much higher transit market shares than commercial uses. Rail transit works best when there is a single, large employment concentration, such as a central business district (CBD), within short and easy walk access to stations fed by line(s) with high density, residential or mixed use clusters within walking distance of non-CBD stations.

U.S. Department
of Transportation
**Federal Transit
Administration**

Administrator

400 Seventh St., S.W.
Washington, D.C. 20590

JUN 14 1993

The Honorable Frank R. Wolf
U. S. House of Representatives
Washington, D. C. 20515

Dear Congressman Wolf:

This refers to the questions you raised about the Dulles Corridor transit studies at the House Appropriations Subcommittee Hearings on the Federal Transit Administration (FTA) budget proposal for Fiscal Year 1994. In the attachment, FTA staff have summarized information from past studies relevant to your questions. There are, however, some issues which cannot be addressed without the benefit of further study and analysis.

The toll increases necessary to finance a rail link from Dulles Toll Road revenue, for example, would be determined on completion of a detailed analysis of the project's capital cost, farebox revenue, operations/maintenance costs, projected Toll Road usage, and the availability of other potential sources of funding. Once the specific financing requirements were known, it would be possible for local and State officials to structure a financing plan which might include toll increases as one of its elements.

As I mentioned at the hearing, FTA issued a Letter of No Prejudice (LONP) to the Virginia Department of Transportation for $750,000 for rail system planning in the Dulles corridor in response to a request based on an Intermodal Surface Transportation Efficiency Act (ISTEA) earmark of $6 million. The LONP permits the expenditure of local and State matching funds in advance of a possible Federal grant. However, it does not commit the FTA to actually make such a planning grant, nor certainly does it commit the FTA to provide capital funding for a rail construction project.

I hope this information is helpful

Sincerely,

Bob McManus

Robert H. McManus
Acting Administrator

Enclosure

SUMMATION OF DULLES CORRIDOR PLANNING AND INVESTMENT ACTIVITIES

I. History of Transit Studies in the Dulles Corridor

In the late Sixties and early Seventies there were a number of studies dealing with transit in the Dulles Corridor. Most of them dealt with the engineering and operational feasibility of different rail technologies, including monorail and Metro rail. In 1976-77, a region-wide Metrorail Alternatives Analysis examined the possibility of building the Orange Line to Dulles. The study confirmed that the originally planned Vienna terminus was more cost effective than the alternative of extending the line from West Falls Church to Dulles via Tysons Corner. This study cost in excess of $350,000 and was 100% Federally funded. In the mid-Eighties, there was a study of the potential for the private sector to develop a light rail line in the corridor. That study cost about $200,000 and was also entirely Federally funded.

The only study we are aware of which covered a complete range of transit options in terms of projected patronage, capital and operating costs was the "Dulles Airport Access Road Corridor Transit Alternatives Study" completed by Fairfax County in 1989. That effort cost $312,000, of which the Federal share was $250,000.

This study compared the effectiveness of a bus alternative, costing approximately $72 million (1988 dollars) with several rail alternatives ranging in costs from $562 to $795 million. This comparison was done utilizing the FTA cost-effectiveness index (CEI) which measures the incremental cost of a transit project per each new rider (using annualized project capital costs, travel time savings, operations and maintenance cost, and anticipated riders) compared to a transportation systems management (TSM) option (this is the most effective use of existing transportation systems to solve the transportation problem). The resulting CEI from the study for the TSM (HOV/Bus) alternative was $7 per new rider, while the CEI for the rail alternatives ranged from $20 to $80 (1988 dollars) per new rider. The results of the study indicated that the least expensive rail alternative cost 780% more than the TSM (HOV/bus) alternative, but only attracted 5% more riders.

Further study would be required to update the capital costs to 1993 dollars and update ridership demand estimates based on current conditions. In addition, further analysis would identify potential funding sources, planned land use densities around station sites, and transportation impacts of both bus and rail service in the Dulles corridor.

II. Federal funding of Transit in the Dulles Corridor.

Recognizing the need for transportation capacity improvements in the Dulles corridor, the Federal Transit Administration (FTA) has funded transit related improvements for the Dulles Corridor in the amount of $26 million. These funds were used for engineering and design, land acquisition, and the construction of four park-and-ride lots and access improvements. The total cost of these improvements was $32 million, with $6 million being funded by Fairfax County. Also, $37 million in Dulles toll road revenues were used to build HOV lanes and other transportation improvements in the Dulles corridor.

In addition, FTA issued a Letter of No Prejudice (LONP) for $750,000 for rail systems planning activities in the Dulles Corridor in response to an Intermodal Surface Transportation Efficiency Act (ISTEA) earmark of $6 million. Attached is a copy of the LONP. This does not commit FTA to fund these activities; however, if a grant were made it permits the state to be reimbursed for the planning work.

vap w Dwayne Weeks

U.S. Department
of Transportation
**Federal Transit
Administration**

Administrator

400 Seventh St., S.W.
Washington, D.C. 20590

DEC 14 1992

OPTIONAL FORM 99 (7-90)

FAX TRANSMITTAL

	# of pages ► 4
To Dwayne Weeks	From Sheila Byrne
Dept./Agency TPM-22	Phone # (215)656-6900
Fax #	Fax # (215)656-7260
NSN 7540 01-317 7368 5099-101	GENERAL SERVICES ADMINISTRATION

Mr. Leo J. Bevon
Director
Virginia Department of Rail
and Public Transportation
1401 East Broad Street
Richmond, Virginia 23219

RE: Letter of No Prejudice

Dear Mr. Bevon:

The Federal Transit Administration (FTA) has completed its review of the Virginia Department of Rail and Public Transportation's (VDRPT's) October 16, 1992 request for a Letter of No Prejudice. As a result of this review, you may proceed to incur costs for the system planning activities for the Dulles Corridor Rail Project that you identified to be performed in FY 1993. These studies will include: a Dulles Corridor Operations Study, a Dulles Corridor Systems Plan, a Financial Analysis, and a Tax District Analysis. You may proceed to incur costs for these planning activities without prejudice to possible future federal participation of up to $750,000 in federal funds. This no prejudice authorization is granted subject to the provisions outlined in the enclosed Joint Statement of Understanding and shall only be valid after execution by both parties to that Statement.

If the project is not approved by the expiration date set forth in the Joint Statement of Understanding, costs incurred under this no prejudice authority will not be considered eligible for reimbursement unless the project sponsor seeks, and FTA grants, an extension.

Please note that, as agreed to in the Joint Statement of Understanding, this authorization carries no legal or moral commitment that the project will be approved for FTA grant assistance or that FTA will obligate funds for the project.

Please execute all four copies of the enclosed Joint Statement of Understanding and return two of the signed copies to the FTA Region III Office. If you have questions concerning this letter or project development, please contact Sheldon A. Kinbar, Regional Administrator in Philadelphia, Pennsylvania, at (215) 656-6900.

Sincerely,

Brian W. Clymer

Enclosures

JOINT STATEMENT OF UNDERSTANDING

This joint statement sets forth the understanding of the Federal Transit Administration (FTA) and the Virginia Department of Rail and Public Transportation (VDRPT), with respect to the conditions applicable to the Letter of No Prejudice (LONP) issued by FTA on DEC 14 1992 to incur costs for systems planning activities for the Dulles Corridor Rail Project without prejudice to possible future federal participation of up to $750,000 in federal funds.

The conditions applicable to the Letter of No Prejudice described above are as follows:

(1) The LONP is not a legal or moral commitment that the Project will be approved for FTA assistance or that FTA will obligate funds for the project under the Federal Transit Act, as amended. Furthermore, the LONP is not a legal or moral commitment that all items undertaken by the applicant will be eligible for inclusion in the Project.

(2) All FTA statutory, procedural, and contractual requirements must be met.

(3) No action will be taken by VDRPT which prejudices the legal and administrative findings which the Federal Transit Administrator must make in order to approve a project.

(4) Local funds expended by the VDRPT pursuant to and after the date of the Letter of No Prejudice will be eligible for credit toward local match, if FTA later makes a grant for the project.

(5) The federal amount of any future FTA assistance to VDRPT will be determined on the basis of the overall scope of activities and the then prevailing statutory provisions with respect to the federal-local match ratio.

JOINT STATEMENT OF UNDERSTANDING

(6) This Letter of No Prejudice will remain in effect until September 30, 1994, or until the FTA approves a grant for the project, whichever occurs first.

Date 12/14/92

Brian W. Clymer
Administrator
Federal Transit Administration

Date 12/30/92

Leo J. Bevon
Director
Virginia Department of Rail and
Public Transportation

LOUDOUN COUNTY AND METRO COMPACT

Mr. WOLF. Mr. Gunn, Loudoun County is not in the Metro compact, is that correct?

Mr. GUNN. That is correct.

Mr. WOLF. If you were to take a rail station and put it in Loudoun County, would that require them to participate in the compact?

Mr. GUNN. I don't think that has been addressed at this point, to the best of my knowledge.

Mr. WOLF. But this is important because Loudoun County is talking about having a stop, and my sense is——

Mr. GUNN. Beyond Dulles, that is correct.

Mr. WOLF. There is this scenario being laid out. This is a stop, and this is part of the system, but then are you under Davis-Bacon with minimum wage restrictions, different things like this, and just being in the compact makes the costs go up.

I want to know if your lawyers could tell us if the trap is once they get in that they are obligated, or can they do it in a way they are not obligated for anything like that?

People in Loudoun County have asked and I want to be able to tell them, you would not have obligations with respect to the Metro compact; or you are trapped, once in, you can't get out.

Do you have a comment from a lawyer's point of view?

Mr. GUNN. We have no lawyers here.

Mr. BENJAMIN. Sorry.

Mr. GUNN. We don't have a lawyer with us. We can find out for you, Mr. Wolf.

Mr. WOLF. Thank you.

Mr. GUNN. Just a moment.

Ms. LIPMAN. I am not a lawyer.

Mr. GUNN. Debbie told me Loudoun is in the Compact but there is no financial commitment. The question is, would there be a financial commitment?

Ms. LIPMAN. Loudoun County joined the Northern Virginia Transportation Commission several years ago, which automatically includes them in the Metor Compact, but they are not assessed any costs at the current time. If Metrobus or Metrorail service is offered in the future, Loudoun County will pay their allocated share of any costs!

Mr. WOLF. What is the advantage of them being in it?

Ms. LIPMAN. I think that it was done so they would have the ability to review Metro bus service and the possibility of a rail extension.

Mr. WOLF. Currently no bus service goes into Loudoun County, right?

Ms. LIPMAN. That is correct.

Mr. GUNN. We will get you an analysis of it.

[The information follows:]

ORDINANCE TO ENLARGE THE NORTHERN VIRGINIA TRANSPORTATION DISTRICT TO INCLUDE LOUDOUN COUNTY AND TO DISSOLVE THE LOUDOUN COUNTY TRANSPORTATION DISTRICT

Section 1. Purpose

The Board of Supervisors of Loudoun County hereby finds that the orderly growth and development of Loudoun County and the comfort, convenience and safety of its citizens require an improved transportation system composed of transit facilities, public highways and other modes of transport. The Board of Supervisors of Loudoun County further finds that joint action through the Northern Virginia Transportation District, by Loudoun County and the other jurisdictions included in that district, will facilitate the planning and development of the needed transportation system.

Section 2. Enlargement of the Northern Virginia Transportation District to Include Loudoun County

The Northern Virginia Transportation District is hereby enlarged to include the territorial limits of Loudoun County.

Section 3. Agreement with Northern Virginia Transportation Commission on Terms and Conditions

Contemporaneous with the adoption of this ordinance, Loudoun County has authorized to be executed an agreement specifying the terms and conditions of admittance to the Northern Virginia Transportation District, which agreement is incorporated herein by reference.

Section 4. Dissolution of the Loudoun County Transportation District

Upon the enlargement of the Northern Virginia Transportation District to include Loudoun County, Loudoun County withdraws from and thereby dissolves the Loudoun County Transportation District.

All funds of the Loudoun County Transportation District held or receivable at the time of dissolution shall be held in trust by the Treasurer of Loudoun County for disbursal in accordance with the appropriations previously made by the Loudoun County Transportation District Commission. The balance of those funds shall be transferred to the Northern Virginia Transportation District to be held in trust for Loudoun County and to be disbursed in accordance with the agreement entered into between Loudoun County and the Northern Virginia Transportation Commission.

Section 5. Effective Date

The provisions of this ordinance shall become effective upon the entry in the minutes of the Board of Supervisors of Loudoun County of the certification of this ordinance by the Secretary of the Commonwealth, as provided in Va. Code § 15.1-1367.

AGREEMENT BETWEEN THE NORTHERN VIRGINIA TRANSPORTATION COMMISSION AND LOUDOUN COUNTY, VIRGINIA REGARDING EXPANSION OF THE NORTHERN VIRGINIA TRANSPORTATION DISTRICT TO INCLUDE LOUDOUN COUNTY

1. Purpose

This agreement sets forth the terms and conditions by which the Northern Virginia Transportation Commission (NVTC) will admit Loudoun County to membership in NVTC, by which Loudoun County agrees to join NVTC, and by which the geographic area of the Northern Virginia Transportation District will be expanded to include Loudoun County (Va. Code §§ 15.1-1345 (2) and 1367).

2. Term

This agreement is effective on the date on which, by ordinance, Loudoun County joins NVTC and dissolves the Loudoun County Transportation District, and shall remain in effect until dissolution of NVTC or withdrawal of Loudoun County from NVTC or termination of the agreement otherwise in a manner consistent with applicable laws of the Commonwealth (including Va. Code § 15.1-1368).

3. Pledge of Mutual Cooperation

Broadening NVTC to encompass Loudoun County offers a great opportunity to cooperate in planning, financing and implementing improved transportation throughout Northern Virginia. The parties to this agreement pledge their best efforts to work effectively together to accomplish such improvements within the specified powers of the Transportation District Act of 1964 as amended (Va. Code §§ 15.1-1342 *et seq*.).

4. Membership

Loudoun County is eligible to appoint one member of NVTC. That member must be appointed by the Loudoun County Board from its elected and duly qualified members, for a term to be determined by the Board (Chapter 630, 1964 Acts of Assembly as amended by 1989 Senate Bill 592 and Va. Code § 15.1-1348).

5. Allocation of Revenues

The proceeds of the two percent motor fuels tax assessed in Loudoun County shall be received by NVTC from the Commonwealth and held in trust by NVTC for Loudoun County. Interest shall accrue separately on those funds for the benefit of Loudoun County. Upon proper request to NVTC by Loudoun County, these proceeds may be expended by Loudoun County for any lawful transportation purpose that is consistent with its adopted transportation plan (Va. Code § 58.1-1724).

Additional revenues received by NVTC on behalf of Loudoun County will also be held in trust by NVTC for Loudoun County. None of these funds will be apportioned using the revenue allocation formula that applies to NVTC's five original member jurisdictions, unless such formula apportionment is mutually agreed upon by Loudoun County and a majority of NVTC's members (using voting procedures defined in Section 2B of NVTC's By-Laws).

Before any of Loudoun County's funds on account with NVTC are released, NVTC's Executive Director, acting as Trustee, must receive a written request from Loudoun County authorizing the disbursement.

6. Loudoun County's Transportation Plan

For Loudoun County to expend its funds held in trust by NVTC, the County must certify that such expenditures are consistent with the County's adopted transportation plan (Va. Code § 15.1-1357 (b) (6)). The transportation plan adopted by the Loudoun County Transportation District Commission on September 11, 1989, along with the funding priority guidelines adopted on November 1, 1989, are recognized by NVTC as Loudoun County's transportation plan for purposes of this agreement. The Board of Supervisors of Loudoun County may amend or revise that transportation plan from time to time, provided, however, that it first submits the amendments or revisions to NVTC for discussion. Loudoun County agrees to consider any comments that NVTC and NVTC's jurisdictions may have regarding the proposed amendments or revisions prior to action. NVTC will keep the current adopted plan on file. Loudoun County agrees to provide in a timely manner the appropriate written documentation to NVTC's Executive Director as to eligible purposes with any request to spend funds held in trust for Loudoun County by NVTC.

7. Allocation of Administrative Expenses of the Commission

Loudoun County agrees to share in NVTC's administrative expenses on the same terms as apply to all Commission members. Each jurisdiction pays NVTC's administrative expenses on the basis of the relative shares of state and federal transit aids allocated by NVTC among its component governments (Va. Code § 15.1-1357(6) (c)).

8. Special Voting Procedures

The Loudoun County member of NVTC may vote on any matter brought before NVTC, subject to the following exceptions:

a) The member may not vote on formulas allocating NVTC revenues among member jurisdictions when Loudoun County is not included in the group receiving revenues. For example, Loudoun County would not vote on an NVTC formula apportioning the regional two percent motor fuels tax among NVTC's five original jurisdictions while Loudoun County's tax is to be accounted for independently. On the other hand, Loudoun County may vote on apportionment of NVTC's state aid revenues if Loudoun County transportation projects have been included in NVTC's grant request.

b) The member may not vote on matters pertaining directly to the governance of the Washington Metropolitan Area Transit Authority (WMATA) that are outside of the rights and responsibilities delineated in the WMATA Board Resolution admitting Loudoun County to the Transit Zone.

If a dispute arises over the Loudoun County member's right to vote, NVTC's Chairman shall decide. That decision may be appealed to NVTC's Executive Committee by any member of NVTC. The decision of the Executive Committee is final.

9. Membership in the WMATA Transit Zone

After joining NVTC, Loudoun County will be encompassed in the WMATA Transit Zone. In accordance with WMATA's July 6, 1989 Resolution and July 11, 1989 letter, Loudoun County will not owe any duty or responsibility to WMATA at the time it joins NVTC. At such time as Loudoun County applies for permission to use or contract with WMATA for transit service or facilities, terms and conditions will be established as appropriate. Before Loudoun County applies for such permission, the County agrees to inform NVTC so that NVTC may consider a unified proposal to the WMATA Board, agreed to by Loudoun County and by a majority of NVTC's members, regarding the appropriate terms and conditions. NVTC agrees to exercise its best efforts to seek WMATA Board approval of that unified proposal.

10. Amendments to NVTC's By-Laws

NVTC agrees to adopt amendments to its By-Laws setting forth such changes necessary to implement this agreement.

11. Dissolving the Loudoun County Transportation District Commission

Coincident with the effective date of this agreement, Loudoun County agrees to dissolve the Loudoun County Transportation District Commission (LCTDC) and to inform appropriate officials of the Commonwealth of such dissolution and Loudoun County's membership in NVTC. (Va. Code § 15.1-1368-9).

Loudoun County shall not be subject to any liabilities of, debts of, or claims against NVTC outstanding at the time Loudoun County joins NVTC or as a result of matters in which Loudoun County is not eligible to vote pursuant to this agreement.

The Treasurer of Loudoun County and Loudoun County Director of Financial Services have been authorized by the LCTDC and Loudoun County to hold, invest and account for LCTDC funds. Subject to the direction of the Board of Supervisors and/or the LCTDC, at the time of dissolution all LCTDC funds shall be held in trust for the purposes identified in the transportation plan. If requested, NVTC agrees to hold all or a portion of those funds in trust for Loudoun County for disbursal pursuant to paragraph five and subject to prior appropriations by LCTDC for specific projects or purposes.

12. Withdraw from NVTC

In the event Loudoun County withdraws from NVTC, NVTC shall disburse any remaining funds held in trust for Loudoun County in conformance with paragraph five.

13. Additional Requirements

All applicable laws and regulations of the Commonwealth will apply.

14. Effective Date

This agreement shall become effective upon entry in the minutes of the Board of Supervisors of Loudoun County of the certification of the Secretary of the Commonwealth, as required by Va. Code § 15.1-1367.

Betty W. Tatum
Betty W. Tatum, Chairman
Loudoun County Board of Supervisors

12-14-89
Date

COUNTY OF ARLINGTON
STATE OF VIRGINIA, to-wit:

I, Mary E. Fisher, a Notary Public in and for the State and County aforesaid, do hereby certify that this day personally appeared before me in my said jurisdiction, Betty W. Tatum, Chairman, Loudoun County Board of Supervisors, whose name is signed to the affixed Agreement.

Given under my hand this 14th day of December, 1989.

Mary E. Fisher
Notary Public

My Commission Expires: July 18, 1992

Lilla Richards
Lilla Richards, Chairman, NVTC

12-14-89
Date

COUNTY OF ARLINGTON
STATE OF VIRGINIA, to-wit:

I, Mary E. Fisher, a Notary Public in and for the State and County aforesaid, do hereby certify that this day personally appeared before me in my said jurisdiction, Lilla Richards, Chairman, NVTC, whose name is signed to the affixed Agreement.

Given under my hand this 14th day of December, 1989.

Mary E. Fisher
Notary Public

My Commission Expires: July 18, 1992

Mr. Wolf. Can you prepare that for the committee, Mr. McManus?

Mr. McManus. I understand what you are getting at.

Mr. Wolf. I want to share it with the media and with elected officials so everyone knows what will be required.

And also if you could add in what you think the projected costs are. I have seen $700 million. I have seen $1 billion. If you could sort of take a look at that.

Mr. McManus. Fine.

Mr. Wolf. Anything favorable and unfavorable, anything that would help the project for those proponents trying to bring Metro out or light rail out, put it in there; anything that would go the other way.

I just want to have the most complete information available so that the citizens, particularly, who are eventually going to have to pay for this, will be able to make a judgment.

If you asked somebody now, would you rather have bus, the system we are working on in this committee and have been generous in funding, or would you rather have rail, I guarantee nine out of 10 would say they would rather have rail. But if you talk about what they have to pay, then I think there may be a difference.

BUS FLEET

On the question of the age of your fleet, Mr. Gunn——

Mr. Gunn. Yes, sir.

Mr. Wolf [continuing]. What is the age of the fleet and how does it rank with other transit systems?

Mr. Gunn. It is approximately nine years old, depending on whether you throw the Neoplan buses which are——

Mr. Wolf. Throw what?

Mr. Gunn. The Neoplans, which are a series of buses built in 1983 that are inactive. We can count them or not include them in our calculation. But, the average age of our bus fleet is nine years.

Since a bus lasts approximately 12 years, the basic goal for a transit property is to have a six-year average life for the bus fleet. Our problem is that 40 percent of the fleet is over twelve years old. We have got buses that are what, 30 years old?

Mr. Miller. Some of them, yes.

Mr. Gunn. The 30-year-old buses have been rebuilt. The 250 Blitz buses we have were built in 1962, I think.

Mr. Miller. Yes.

Mr. Gunn. The average age is high, but also the old ones are very old. That is a problem.

Mr. Wolf. What does that mean for the future of Metro?

Mr. Gunn. Well, right now our bus maintenance people do a very good job in terms of keeping the buses running with minimal breakdowns. We are beginning to see problems in terms of air conditioning, for example.

Our statistics report 90 percent of the buses have operable air conditioning in the morning. But by noon, if you have 50 percent of the air conditioners running, I think it is good.

Air conditioning is something that at some point you cannot keep those built-in air conditioning systems running. Our bus maintenance personnel have done a wonderful job, but they have reached the limit.

I am sure if we had a lower average bus age, we would be able to reduce heavy overall maintenance. We wouldn't reduce daily servicing. Of the approximately 700 mechanics, about 200 are in the heavy repair facility.

I would suspect some of our heavy maintenance work would slow way down. For example, we have articulated buses which are 12–14 years old. We are going through very extensive rebuilding efforts on the turntable. The turntables are rotted out. We are rebuilding the whole turntable apparatus, that part of the bus where the bus bends.

But the real impact is on the quality of service. Many of the buses are structurally worn out. We are beginning to see tears and rips on the side of the bus.

If we don't get some new buses we won't have enough operable buses to provide service.

TWINBROOK STATION

Mr. WOLF. I have a couple of other questions. I mentioned to you before the Architectural and Transportation Barriers Compliance Board raised the concern with respect to the Twinbrook station. I think you have taken care of that, but if you want to comment for the record.

Mr. GUNN. That is the ramp. We were putting one in. It was supposed to be done earlier, but the contractor poured the ramp and it had the wrong slope. So we had to take it out and it is being put back in.

Mr. WOLF. They appeared before the committee a month ago and didn't seem to be aware of where it is.

Mr. GUNN. May 31 is our estimated date of completion.

WAGE RATES

Mr. WOLF. The question is on the pay scale of Metro compared with other transit systems.

Mr. GUNN. Metro used to be the highest in terms of hourly wage rate, but we are no longer at the top. We were surpassed by San Francisco, Los Angeles, San Jose and a couple other properties. But we are among among the higher in terms of the top wage rates.

LABOR AGREEMENTS

Mr. WOLF. Any way of renegotiating the binding arbitration pact?

Mr. GUNN. We just negotiated two of the five labor agreements at Metro. We just signed an agreement with the largest, Amalgamated Transit Union 689. We made some progress. I think it was a fair and affordable settlement.

We also just settled with our police, we agreed upon Local 246. It is the same basic package. 9.3 percent for Local 689 and 9.6 percent for Local 246 over three years.

There is no question that the binding arbitration provision in our contract puts us at a distinct disadvantage in negotiations. I don't think it is likely that the binding arbitration provision will be changed because it requires concurrence of all three jurisdictions and the Congress.

Mr. Wolf. I think the Congress may very well go along with it. I think that has been part of the problem that a lot of people have had with regard to Metro. I think it is part of the problem that you have had personally with Metro.

Mr. Gunn. That is right. We did fairly well given the leverage we had in bargaining. It was a reasonable settlement. We also reached agreement on what is called a "COLA" provision in our contract. This is something that many transit properties have adopted over the last 15 years.

Assuming we negotiated a 5 percent wage increase, and if the CPI went up 10 percent, the COLA provided that the wage rate would be adjusted to 80 percent of the difference. So even if we negotiated 5 percent, we would have ended up paying 9 percent.

The COLA is suspended for the life of this contract. It kicks in on the last day of the contract. It is not retroactive, but Metro will have to deal with it in the next labor negotiation. I think the COLA suspension is important for the cost structure of the authority.

Mr. Wolf. Mr. McManus, how does that compare with other transit systems, particularly the binding arbitration? Are there a number with binding arbitrations?

Mr. McManus. I am really not as informed about it as Dave is, but there are a number, yes. I can't do much with that. I can't tell you much more about it.

Mr. Wolf. Do you know how their wage scales compare with the others? Do you have the top 10, if you will, or the first 10?

Mr. McManus. I can stipulate to what Mr. Gunn has in front of him.

Mr. Gunn. I have, as of May, the full time bus operators' hourly wage rate for most of the the properties in the country.

Mr. Wolf. What is number one?

Mr. Gunn. I think it is San Jose.

Mr. Wolf. What is the wage?

Mr. Gunn. San Jose is $18.33 per hour. I was scanning this to see if anyone was higher. It is all over the lot. Philadelphia is $14.45, which is a big difference. New York City is $17.71. Philadelphia is a big property and wages are $3 less per hour than WMATA.

Baltimore is $15.67 per hour. So they are about $2 less than us.

Mr. Wolf. That is a good bit.

Mr. Gunn. It makes a big difference. It is one of the factors driving the local jurisdictions to set up their own bus transit operations.

Mr. Wolf. Yes, it is. I think it will continue. Maybe we should put legislation in and see what can be done with respect to the compact.

I think eventually you are going to find that more and more with the local people, this will be the big issue. You obviously have bus drivers making $50–60,000 a year counting overtime, perhaps one or two. How do you compute that, how many hours?

Mr. Gunn. I can give you the—we get a printout that ranks operator earnings.

Mr. **Wolf**. I don't mean this as criticism of you, frankly, nor of Metro. Perhaps it is more criticism of the compact that is set up in such a way that prohibits you from dealing with it.

Mr. **Gunn**. It doesn't give you a lot of leverage when you go to bargaining.

METRO OPERATIONS—AUTOMATIC TRAIN PROTECTION

Mr. **Wolf**. The last question maybe is for the record. What happened with the recent near head-on collision?

Mr. **Gunn**. First of all, the problem was multiple human error. If you look at this map, it was late in the evening, towards the end of service, and there were trains leaving Shady Grove and headed towards downtown.

Don't hold me to the exact time, but at approximately 11:30, before the train got to the first station, police officers from the local jurisdiction entered the track and were chasing a suspect. The police requested power to be taken off the third rail south of Rockville. The train never made it into Rockville station. It stopped.

At this point, Metro's central control, who have physical control over the interlocking plants, the switches and signals and ultimately controls the dispatch of the trains, made a decision to reverse that train and run it back to Shady Grove on the same track. The train is now going to go northbound back to Shady Grove. There is a signal system designed so this can be done safely.

And what happened was, however, the first decision they made was to remove Automatic Train Protection (ATP). We have cab signals. What that meant is that that train was blinded. There was no reason to remove the ATP, but ATP was removed. Even with the ATP cut in, they can go against the normal traffic direction, even if they don't have the signals, at 15 miles an hour.

Mr. **Gunn**. Once they had removed ATP, they should have established what is called an "absolute block", which means that the track is clear, that there is nothing on the track. That is established not just looking at it, but by physically setting a Red signal at Rockville that protects the train and then physically setting a Red signal at Shady Grove which protects anything from coming in and hitting that train or providing something the train could hit.

They let a train into the block, and they told the train to move before they had established an absolute block.

That was wrong. They should not have done that. They should not have taken off ATP.

The next thing that happened is the train operator violated rules by running at a very high rate of speed. The train operator accelerated to 70 miles an hour. The train coming south, if its signal system was working, he would have stopped according to the signal system. The signal would have stopped him, but the train coming north had no signal protection.

The supervisor at Shady Grove has a monitor. He can see the trains. The trains are all moving on the monitor. He also has the interlocking plan in front of him. On that plan he can see that the absolute block had not been established.

That supervisor said, "Stop the trains," and they yelled over the radio, "Stop." The trains stopped and there they were 600 or 800 feet apart. The southbound train had stopped already. I mean, the train stopped before the signal system kicked in. It was a violation of very basic procedures in terms of the central command center.

Mr. WOLF. If the person hadn't been watching the monitor for whatever reason, that would have been it?

Mr. GUNN. It is hard to speculate because the northbound train operator, you would have assumed, would have been watching where she was going. It is hard to speculate exactly what would have happened; but it was not a good situation.

But the signal system is designed to handle this kind of situation. It is used not frequently, but we have to use it periodically if we have a crippled train or whatever. It is designed to establish an absolute block, and to make sure that the track is clear. That is the order in which you do it. Before you move a train without a cab signal, you have to ensure that you have clear track and that there is an absolute block established. And that is not just saying it is clear. That is physically moving levers and locking other trains out of that piece of track. It wasn't done.

Then, to compound it, what happened is it was a very serious error in judgment or failure to follow procedures which should be routine in this environment. The senior person in the command center, or what I believe was the senior person at the moment, covered it up for two days. It didn't get reported until one of the people involved reported it. That is when the general superintendent found out. He notified the Assistant General Manager who in turn notified me, and we notified the Board Safety Committee Chairman.

Mr. WOLF. That is why the delay took place?

Mr. GUNN. The two days of delay, yes. If any one of those errors hadn't been made it would have averted the situation.

The signal system in Metro is a wonderful system, and it provides great flexibility. But when you cut it out and don't use it, it causes problems.

We took disciplinary action. We have also changed the procedure so now before you can cut out ATP and move a train like that, you have to have formal concurrence from your superior, and they get formal concurrence from another person.

METRO CONSTRUCTION MANAGEMENT

Mr. WOLF. Mr. McManus, would you want to make a comment about Metro, how important, how well run compared to other systems, something for the record? So when we are down on the Floor and Members are up here complaining about Metro and the cost of different things, would you have something I could——

Mr. MCMANUS. In the brief statement that I have submitted for the record, I have said that, and——

Mr. WOLF. What did you say? Would you say it for the record?

Mr. MCMANUS. Well, yes, the statement is in the record. But we have said that with respect to the recent completion of the 89½ miles being within the budget established in the 1986 full-funding grant agreement with WMATA, it is being finished on time, which is a real notable accomplishment in the field of rail transit construction, within budget and on time. And the progress of the construction management and planning of the last 18 miles is going along great.

We will be working together on some ways of facilitating their line of credit activity, and in general it is a bright spot for us in dealing with the properties that we do in managing the program.

Mr. **Wolf**. Thank you.

Well, Mr. Gunn, I wish you well. We had a couple of differences over the years, but nothing major. And I think the person who succeeds you will find that it is a very tough job, taking care of all these different jurisdictions, and so I wish you well.

Let the record show that I think you have done an excellent job.

I hope the committee is sympathetic with regard to your budget request. Some people identify me with it, as I said earlier today, to make it clear there is not a Metro stop in my Congressional District anymore. The redistricting has taken Metro basically out of my district.

But I believe in Metro, I think it is a good system, it has been a well-run system. With the number of gatherings here in the city, if we didn't have Metro, it is hard enough to get around the city on a normal day, but it would be absolutely terrible.

Mr. **Gunn**. We appreciate your support. We realize we don't run to your district. I don't want to say that we are going to run to your district because that will open up a whole new can of worms.

Mr. **Wolf**. Thank you very much.

Thank you. I have no further questions, Mr. Chairman.

STATEMENT OF MR. GUNN

Mr. **Carr**. Thank you.

And getting back to the point that we started at, Mr. Gunn, your statement will be made part of the record, and ask that you summarize any points that you haven't covered with Mr. Wolf.

You have been here a long time. Mr. McManus has been here without having an opportunity for a break, and I want to be kind to him. No disrespect to you, but I think most of my questions can be asked for the record. We have a number of them, including the line of credit and the construction program.

Mr. **Gunn**. I will take three minutes. I want to thank you for the opportunity to be here today. It has been very interesting. The type of analysis that you are proposing is certainly valid. I want to thank the Subcommittee for its past support and also thank Bob McManus.

Bob and I have been in this business a long time together. In fact, I think he was acting administrator when I was first hired at the MBTA.

Mr. **McManus**. I hate to think it.

WMATA BUDGETS

Mr. **Gunn**. A long time ago. At Metro, we have three budgets. We have an operating budget, a capital improvement budget and a rail construction budget. This meeting obviously involves the rail construction budget.

You should be aware that we have gone through a very difficult time with our operating expenses. We have been laying off people;

but we have controlled our costs, and we think we have managed WMATA efficiently.

On the CIP, the Capital Improvement Program, we have identified the capital needs for the operating system. We think we have a capital program which is not a wish list. Our ongoing capital needs are between $100 and $150 million a year for the operating system. That includes both bus and rail.

We have a funding shortfall in our CIP. However, assuming the President's budget is approved, the shortfall is probably manageable. With Section 3 and Section 9 funded at the levels recommended by the Administration, and flexible highway funding transferred by the States and the District, the CIP budget is essentially funded.

FAST TRACK CONSTRUCTION

The Fast Track construction program is on the schedule and on the budget that we talked to you about a year ago. To give you a sense, we have in place the local match, and this region is overmatching Federal dollars. The Federal-local matching ratio has declined from 80 percent Federal and 20 percent local to 62.5 percent Federal and 37.5 percent local. We have full funding agreements with FTA on three of the four line segments.

The Franconia-Springfield, Glenmont and Inner Green Full Funding Agreements are signed. The budgets are established. The schedules are established. It will be a year or so before we have a Full Funding Agreement for the final segment—Branch Avenue.

The reasons for building the four line segments are different. Franconia-Springfield, which is on the Blue Line, will extend to a major intersection with a very congested road network, I–95 North. We project 8,000 riders a day boarding at that station soon after it opens.

Glenmont is on the Red Line. The primary purpose to complete this line is to build a yard. The Metrorail system currently does not have enough yard space, and what space we have is not properly located. The plan is to have a storage yard for approximately 150 or 160 cars at Glenmont, so we can put trains in service in a logical fashion.

We are now cramped at Brentwood Yard and storing trains on the main line in order to operate the Red Line. In addition, we will pick up about 6,000 riders when the Glenmont Line opens. The Inner Green construction will close the gap between Fort Totten, where the Greenbelt line joins the Red Line, and the U Street station in the District. That line segment is operationally essential.

We are going to have a shuttle operation from Greenbelt to Fort Totten on the Red Line. When we open the link between Fort Totten and U Street, it will probably result in operating cost savings.

The last piece is the Branch Avenue line. That line takes us into a new service area of Prince George's County and fulfilling a long standing commitment of Metro and the Federal Government to complete the 103 mile system.

OBLIGATIONS STATUS

You mentioned obligations. On the CIP, we have obligated over 90 percent of the money that we have available up through 1993. We spend the money. We think we spend it wisely, but we do obligate the money quickly.

On the capital construction program, by the end of this fiscal year you will have appropriated $250 million towards new construction. We will have obligated $208 by the end of the fiscal year, and the other $42 million will be obligated before we get the next grant. Sometime next spring we will use a line of credit to allow us to obligate funds.

We have got a program that saves money, gets the 103 mile system built rapidly, and completes the entire system which has been the focus of the region for over 20 years. We thank you for your support.

Mr. CARR. Well, we thank you for that overview.

Like I said, we have some questions for the record. And I might just add that while your tenure at Metro has not been without controversy, it has certainly been marked by accomplishment, and I think most of the people on the committee really appreciate the work you have done, and we wish you well.

Mr. GUNN. Thank you.

STATEMENT OF MR. MCMANUS

Mr. CARR. I just want to give an open-ended opportunity to Mr. McManus if he has anything he wants to add to the Metro, the overall Metro presentation, and——

Mr. MCMANUS. I will just say that I am here to support the President's budget, which is a $200 million mark. We think that is adequate to cover things, and if anything, you know, it would have a modest effect on the line of credit functioning in our opinion, so we would not agree with a $212 million request.

Mr. CARR. I would also, given your testimony about airport connections, would not be inclined to fuel any speculation about the wisdom of going to Dulles.

Mr. MCMANUS. Right.

Mr. CARR. Well, thank you all for being here. Like I said, we do have questions for the record that we will ask you to respond to.

FISCAL YEAR 1994 BUDGET REQUEST

Mr. CARR. Mr. Gunn, your statement says that the 1994 budget request for Metro is $212 million. However, the President's 1994 budget only includes $200 million for Washington Metro. That is the request before the committee.

Will you please explain the difference between the two requests?

[The information follows:]

The Authority's $212 million request in fiscal 1994 appropriations reflects the $200 million appropriations projected in our Full Funding Agreements with the Administration for this year, plus the $12 million of the fiscal 1993 request by the Administration and supported by the Authority that was not appropriated by Congress last year. In FY 1993, WMATA requested $182 million, and received $170 million in appropriations. The Administration's FY 1994 request of $200 million reflects the amount anticipated in the Full Funding Agreements for fiscal 1994, but does not account for the prior year shortfall.

Mr. Carr. Your statement also indicates that the full funding agreements that Metro has entered into may have to be renegotiated if Federal appropriations "do not remain at stable levels approximating $200 million annually." If the Federal is exactly $200 million, you will not have to renegotiate, will you?

[The information follows:]

That is correct, we will not have to renegotiate the full funding agreements if the federal appropriation is exactly $200 million.

Mr. Carr. How do you define "approximating $200 million"? Does $180 million or $190 million approximate $200 million?

[The information follows:]

Under the Full Funding Agreements a shortfall funding that would permit renegotiation occurs when the total funds appropriated during fiscal years 1992 through 1999 is less than the total $1.3 billion authorized under Public Law 101–551; when the total funds appropriated in two consecutive fiscal years is less than 90% of the $200 million projected amount (or $180 million); or when the total funds appropriated in any one fiscal year is less than 80% of the $200 million requested amount (or $160 million).

AMERICANS WITH DISABILITIES ACT COMPLIANCE

Mr. Carr. Earlier today we discussed the issue of ADA compliance with officials of the Federal Transit Administration.

Could you please explain to the committee exactly what the current requirement is for WMATA to comply with the Americans with Disabilities Act?

What specific guidance has WMATA received from the FTA or the Architectural Barriers Board regarding compliance?

Have you been given performance specifications to meet or been told exactly which procedures to use?

[The information follows:]

WMATA is currently covered by the employment provisions of Title I of the ADA by virtue of being a state government agency subject to ADA Title IIA. Additionally, WMATA is covered by the transportation accessibility requirements of Title IIB of the ADA. WMATA is also covered by various portions of Title V of the ADA. Briefly, WMATA must adhere to the Key Station, accessible bus, and paratransit requirements as well as the other accessibility requirements for its buses, transit, and work facilities.

WMATA has participated in seminars on ADA compliance sponsored by the FTA. The seminars have brought together transit authorities and representatives of FTA and the Architectural Barriers Board to discuss interpretations of portions of the ADA. Additionally, FTA has ruled on various grandfathering and time extension requests filed by WMATA. The FTA has also sent out "Dear Colleague" letters covering a variety of topics including the elements required in a Key Station Plan submittal.

Generally, performance specifications or guidance is obtained through the Federal Register, Architectural Barriers Board bulletins, and correspondence from the Federal Transit Administration.

ADA IMPACT ON COSTS

Mr. Carr. What do you estimate to be the one-time capital and recurring operation and maintenance costs associated with compliance?

[The information follows:]

The quantifiable costs for FY 1993 through FY 1997 identified to this point are approximately $2 million in capital costs (as much as $32 million if we are required to install a truncated dome platform edge detection system) and $22 million in operating costs.

PLATFORM EDGE DETECTION

Mr. CARR. Tell us about the truncated domes platform edge detection system. Why is that method preferred by some?

Also, tell us what systems you currently have in place for ADA compliance and how your experience compares with systems such as San Francisco's BART, which has the truncated domes.

[The information follows:]

The ADA Accessibility Guidelines (ADAAG) for Buildings and facilities defines a detectable warning as a ". . . standardized surface feature built in or applied to walking surfaces or other elements to warn visually impaired people of hazards on a circulation path" (Federal Register, Sept. 6, 1991).

The "preference" of some for use of truncated dome platform edge detection systems is based on the specification for detectable warnings under the ADA. The specification is Paragraph 4.29, Appendix A to Part 37—Standards for Accessible Transportation Facilities, developed by the Architectural and Transportation Barriers Compliance Board. The specification is incorporated as a mandated regulatory standard by the Department of Transportation in the Final Rule which implements the ADA (Federal Register, Sept. 6, 1991).

There is disagreement in the disabled community as to both the desirability and safety of truncated domes as a warning system. Also, the opposing opinions and many unanswered questions, including ease and safety for all mobility impaired persons, durability, adhesion, maintenance and weather effects caused the American National Standards Institute (ANSI) Committee on Accessible Buildings and Facilities to eliminate truncated domes from its draft A.117.1 standard dealing with persons with disabilities.

The WMATA system already provides a platform edge warning detection system that is composed of red paver tile abutted by a contrasting 18 inch white granite strip. Embedded in the white granite are lights which flash whenever a train is approaching. When WMATA began construction of the Metrorail system in the early 1970's, there were no mandated detectable warning platform edge systems. Nevertheless, WMATA chose to install a detectable warning platform edge in all of its stations.

A comparative analysis of the WMATA experience against that of BART for the same categories (annual average of all patrons falling into the trackway, annual average of visually handicapped patrons falling into the trackway and gap fall average rate per million passenger trips) for the period of 1987 through 1992 clearly demonstrates that the WMATA system is both safer and more accessible than the BART system. In fact, the data show that the WMATA system has an overall favorable rating of almost 3-to-1.

BUSES WITH LIFT CAPABILITY

Mr. CARR. How many of Metro's buses currently have lift capability?

[The information follows:]

Metro currently owns 614 buses equipped with wheelchair lifts, which represents 41 percent of the active fleet. Within the month we will receive delivery of nine additional buses equipped with wheelchair lifts. All future bus procurements will include lifts.

PARATRANSIT

Mr. CARR. How many paratransit rides does Metro provide annually?

[The information follows:]

None. The WMATA Regional Paratransit System is scheduled to begin operating in March of 1994.

Mr. CARR. What is the average cost of a paratransit ride?

Do you know how you compare with similar-sized paratransit operations around the country?

[The information follows:]

Our operating cost is not known since the system has not started.

The fares that will be charged for a paratransit ride on the WMATA system were developed in accordance with the Federal ADA Regulations. The paratransit fares will be double the actual regular non-discounted fares for comparable trips on the fixed route system.

We do not know how WMATA compares with similar sized paratransit operations around the country.

LINE OF CREDIT

Mr. Carr. Mr. Gunn, your statement mentions the need for approximately $1 billion through fiscal year 1994 to maintain the accelerated construction schedule. However, Federal appropriations and local matching shares will only provide $735 million of that amount through 1994. Metro intends to use a line of credit with commercial banks to make up the difference.

Does Metro currently have the authority to enter into such agreements?

[The information follows:]

Yes. The Compact under which WMATA is chartered, the Fifth Interim Capital Contributions Agreement with the local jurisdictions and the Full Funding Agreements with the Federal government give Metro the authority to establish interim funding sources until local match and Federal appropriations are received.

Mr. Carr. What is the estimated interest cost for the amount of credit that Metro would need?

[The information follows:]

The interest cost has two components: a cost for having the line of credit available for obligational authority and a cost for actual amounts of cash borrowed, which depends upon interest rates. The interest cost is also dependent on the level of appropriation. If appropriations are made at the projected level of $200 million annually, the interest costs range from $12.9 million to $16.2 million, of which $11.2 million represents obligational authority cost. If appropriations are made at 90% of the projected level of $200 million, or $180 million annually, the interest costs range from $21.1 million to $32.8 million, of which $15.2 million represents obligational authority cost.

Mr. Carr. How would Metro finance the line of credit interest costs?

[The information follows:]

The line of credit interest costs are an eligible project cost as defined in the Full Funding Agreements.

Mr. Carr. Although a technical matter, this activity, if it is used, in no way places a future obligation upon the Congress, does it?

[The information follows:]

Establishing the line of credit establishes no obligation on the Congress. The line of credit agreement contains a provision that should the Federal government fail to appropriate the projected funding levels as defined in the Full Funding Agreements, the line of credit will terminate.

Mr. Carr. I understand Metro has a preliminary plan that might have the benefit of reducing the cost of the line of credit, is that correct? Please explain the details of the plan and indicate the potential Federal budgetary impacts of the proposal.

[The information follows:]

We are suggesting the possibility of the Federal government guaranteeing the line of credit only for obligational authority in advance of appropriations. No funds would be borrowed against this guarantee. We are discussing this proposal with the Department of Transportation, Congressional Budget Office and the Office of Management and Budget to insure that this proposal results in no impact on the Federal budget. If it could be implemented, this proposal would save Metro the cost of the line of credit for obligational authority which is estimated to be between $11.2 million and $15.2 million.

CONSTRUCTION PROGRAM

Mr. CARR. Please bring the committee up to date on the remaining segments of the fast-track construction program, including the status of the full funding agreements.

[The information follows:]

The fast track program for the completion of the 103 mile system is on schedule and within budget. In November 1992 ground was broken on the Franconia-Springfield segment. Contracts have been awarded for line grading and site preparation. The parking structure design is nearing completion and purchases of rail will begin this summer. Construction of the Glenmont Tunnels will begin in July 1993 and construction of the Station will begin in November 1993. The environmental assessment for the Glenmont Yard was approved by FTA and final design will be completed in late 1993. The final supplemental environmental impact statement (EIS) for the U Street to Fort Totten segment has been approved by FTA. Final design and preliminary real estate acquisition are underway. Public hearings on the draft supplemental environmental impact statements for the Branch Avenue Segment were held in January 1993; approval is expected later this year.

An Interim Capital Contribution Agreement V (ICCA-V) has been executed by the Authority and all Jurisdictions committing the parties to the completion of the 103 mile Adopted Regional System. Local Funding Agreements with the Authority have been executed by each jurisdiction, committing to its local share of capital contributions. Full Funding Agreements have been executed by the Authority and the Federal Transit Administration for three of the four remaining line segments: the Franconia/Springfield line, the Glenmont line and the Mid-City line. The fourth and final Full Funding Agreement for the Branch Avenue line will be executed when the Environmental Impact Statement Process is concluded.

INFLATION RATE

Mr. CARR. What rate has Metro assumed for inflation for each of the years, 1990 through 2000?

[The information follows:]

	Percent
1990 actual	2.8
1991 actual	1.1
1992 through 2000	5.5

Mr. CARR. To the extent that actual inflation has been less than 5 percent, hasn't this resulted in a bit of a windfall for Metro?

[The information follows:]

The low inflation rates have resulted in favorable construction bids for Metro and helped us remain within our budget for the fast track program. However, the final costs are determined after all modifications are settled and construction contracts are closed out.

Mr. CARR. The President's budget assumes an inflation rate of 2.5 percent in 1994, decreasing to 2.2 percent in the out years. Why shouldn't the WMATA estimate reflect the administration's projection?

[The information follows:]

To the extent that actual inflation is less than the rate that Metro has assumed in the construction budget, there will be a corresponding reduction in Metro's cost of borrowing. By lowering the costs of borrowing the total cost of the project will be reduced by a like amount.

Mr. CARR. Are inflation savings in the construction budget devoted only to other construction activities, or may Metro use them to cover shortfalls in other areas?

[The information follows:]

Any savings in the construction budget can only be devoted to completing the Adopted Regional System. P.L. 101-551 stipulates that the funds authorized for completing the Metrorail construction program can only be used for that purpose.

CONSTRUCTION PROGRAM

Mr. CARR. What is the status of the construction industry in the Washington area? Is excess capacity resulting in good competition on contracts and more savings to Metro?

[The information follows:]

The construction industry in the Washington area appears to have excess capacity. This has resulted in good competition for Authority contracts. The Authority has been experiencing a very favorable construction climate over the last year with most bids at or below the budget estimates.

LABOR CONTRACTS

Mr. CARR. What is the status of the labor agreements Metro has with its unions? When are they set to expire and what are the major features?

[The information follows:]

Metro has five labor contracts; these are: Local 689, Amalgamated Transit Union; Local 2, Office & Professional Employees International Union; Local 246, International Brotherhood of Teamsters—Special Police; Local 246, International Brotherhood of Teamsters—Transit Police; and, Local 922, International Brotherhood of Teamsters.

Currently we are negotiating two labor contracts; these are Local 246, International Brotherhood of Teamsters—Special Police; and, Local 922, International Brotherhood of Teamsters. Preparations for negotiations with Local 2, Office & Professional Employees International Union are in progress.

Metro's five labor contracts are set to expire as follows:

Local 246, International Brotherhood of Teamsters—Special Police expired September 30, 1992.

Local 922, International Brotherhood of Teamsters expired April 30, 1992.

Local 2, Office & Professional Employees International Union expires June 30, 1993.

Local 246, International Brotherhood of Teamsters—Transit Police expires September 30, 1994.

Local 689, Amalgamated Transit Union expires April 30, 1995.

The major features of each labor contract are wages, health and welfare, pension and working conditions.

Mr. CARR. How many of Metro's employees are covered by the union contract?

[The information follows:]

The total number of employees covered by Metro's union contracts is 7,114; this number breaks down as follows:

56—Local 246, International Brotherhood of Teamsters—Special Police.
304—Local 922, International Brotherhood of Teamsters.
657—Local 2, Office & Professional Employees International Union.
240—Local 246, International Brotherhood of Teamsters—Transit Police.
5,857—Local 689, Amalgamated Transit Union.

Mr. CARR. How much of a factor are the various State and local laws and regulations concerning labor practices?

[The information follows:]

The effect of state and local laws and regulations are minor, because of the provisions of sections 12(g) and 80 of the WMATA Compact. Under these provisions, WMATA is not subject to state regulation concerning personnel and employment practices. Labor matters are governed by mandatory arbitration under section 66 of the Compact.

HOURLY WAGES

Mr. CARR. What is the average hourly wage of a Metro employee and how does it compare with similar-sized systems around the country?

[The information follows:]

The average hourly wage of a Metro employee is $17.43 per hour based on a forty hour work week and is 4th in the country as compared with similar sized systems.

RIDERSHIP AND FARE STRUCTURE

Mr. CARR. After several years of fairly consistent growth, Metro's rail ridership decreased some in 1992 and has remained steady since then. Bus ridership has been more consistent, but it also dropped in 1992 and has not recovered yet.

How much of the decline do you attribute to the regional economy, and how much to other factors?

[The information follows:]

There are several factors which have adversely affected both rail and bus ridership. The major factor is the local economy. Employment within the District of Columbia and throughout the Washington metropolitan area over the past several years has declined. For example, between June 1991 and June 1992, employment declined in the District by 1.3% and throughout the metropolitan area by 1.7%. This has a direct bearing on the number of commuter trips that are made.

In addition to the decline in regular commuters, tourism, which contributes substantially to our ridership, has declined dramatically over the years. For example, visitors to the Smithsonian museums in June 1991 compared to June 1992 declined by 9%. In looking at local market indicators that affect our ridership such as employment, visitors, hotel occupancy, commercial and retail activity, they have all declined. More recently, there have been encouraging signs of some improvement in the local economy and this has been reflected in our ridership numbers.

Due to the declines in the economy and its impact on our ridership and revenue, the Authority has had little choice but to reduce costs and implement fare increases in June 1991 and 1992. The fare increases have resulted in a loss of ridership, and this is another factor in last year's ridership decline. It should be noted that prior to the recession, we were sustaining ridership growth in the magnitude necessary to avoid fare increases. I would like to point out that from June 1984 to June 1991, a period of seven years, we implemented only one fare increase.

Mr. CARR. When was the last Metro fare increase?

[The information follows:]

The last fare increase for Metrobus and Metrorail was implemented on June 27, 1992. The fare increase did not affect the $1.00 base fare on either Metrobus or Metrorail. Instead, it consisted of changes in the Metrorail mileage rates, the value of rail-to-bus transfers and the price of passes. We also introduced two new rail passes and increased the bonus on the purchase of high value farecards.

Mr. CARR. Are you confident you can manage through Federal fiscal year 1994 without another fare increase?

[The information follows:]

The Authority's fiscal 1994 approved budget, which is fully funded through revenues and jurisdictional subsidies, calls for no fare increase and there has been no discussion of a fare increase with the Board of Directors.

FARECARD BONUSES

Mr. CARR. Explain some of the bonuses riders can get if they buy certain types of fare cards. Do these promotional fare schemes really make good economic sense? Or, in effect, in the past has Metro increased fares only to return the increased revenue back to the riding public in the form of high value fare cards?

[The information follows:]

The Authority offers two farecard bonus amounts. A 5% bonus is given on farecard purchases of $10.00 to $19.95, and a 10% bonus is given on farecard purchases of $20.00 or more.

The farecard bonus program provides benefits to both our passengers and to the Authority. For our regular customers, they receive a discount on their large purchases; for us, we retain customers that might have been lost with the fare increase, we get the cash up front, it reduces equipment maintenance and serving costs, and it cuts down on the amount of equipment that is necessary.

In addition to the bonus program, the Authority recently introduced two new rail passes, the rail Fast Pass and the One Day Pass. The Rail Fast Pass allows unlimited use of the rail system for a specified two-week period at a cost of $50.00. The One Day Pass, which sells for $5.00, is valid for unlimited travel for a single day after 9:30 a.m. on weekdays and all day on Saturdays, Sundays and holidays. These passes provide bonuses to some customers, especially if they make a large number of trips; others purchase the for the sake of convenience.

Presumably, "high value farecards" refers to the bonus value issued on the purchase of high value farecards. The last two fare increases were implemented on June 29, 1991 and June 27, 1992. These are expected to produce $28.5 million in additional revenue this year. The amount of rail bonus value to be issued this fiscal year in excess of what was issued in fiscal 1991 will total about $1.8 million.

COMMUTING COMPARISON—RAIL VS AUTOMOBILE

Mr. Carr. What would be the typical cost per day for a Metro rider from the end of the Orange or Red Line, including parking at a park and ride lot, and how would that compare with driving to town and paying to park all day in a garage?

[The information follows:]

The cost of parking at one of the most distant Metro stations is $2.25 a day and the maximum rail fare is $3.15 (for trips 16 miles or longer). Therefore, the daily trip would cost $8.55, before any discounts for passes or high value farecards are considered.

The cost of driving the same distance and paying commercial rates to park downtown is substantially more. If you assume the same 16 mile trip, or 32 miles round trip, at 25¢ a mile, and $7.00 for parking, this trip costs $15.00 a day. Therefore, it costs $6.45 a day more to drive for this trip.

As the commuting distance increases beyond 16 miles, it becomes even more economical to ride Metro. However, offsetting this is the abundant supply of free and subsidized parking in the core area, much of which is provided by the federal government. A recent study by the Metropolitan Washington Council of Governments found that 74% of the parking spaces at federal facilities in the downtown area are provided free of charge, 22% are discounted, and only 4% are at full market rates. At non-federal facilities, 37% are provided to employees free of charge, 17% are discounted and 46% are at full market rates. Providing so much free and subsidized parking distorts the economic realities associated with driving a car. These subsidies, much of which are at the public's expense, encourages people to drive, resulting in highway congestion and air quality problems.

FARES IMPACT ON RIDERSHIP

Mr. Carr. How elastic do you consider demand for Metro service to be? Are fares getting close to the point where each incremental increase could result in rather large declines in ridership?

[The information follows:]

Elasticity changes as the economy and other factors change. For example, during good economic times a fare increase would have less of an impact on riders than at times when the economy is on a downward trend. For example, at the present time, the economy is still in an economic slump. Companies are still laying off employees, with few companies hiring. People watch each dollar carefully. The price of our competition also affects elasticity. When gasoline is plentiful and prices are low, a fare increase can have more of an impact that when prices are rising or if there are 'nes at gas stations. Given the current situation with the local economy and our competition, we believe a fare increase would have a substantial impact. For that reason, we are holding fares steady in Fiscal 1994.

If fares were increased this July, it would be the third year in a row that fares changed. However, there will be no fare increase this July. If a fare increase were not averted by a favorable union contract, a reduction in force and other management actions to reduce costs, we believe that a fare increase this July could have had a substantial impact on ridership.

TRANSIT BENEFIT PROGRAMS

Mr. CARR. Current law allows Federal agencies to participate in State and local government programs that encourage employees to use public transportation. Benefits can include up to $60 per month in tax-free assistance to be applied toward transit costs. In a November 1992 report, the General Accounting Office concluded that "it is too early to tell whether providing transit benefits has succeeded or will succeed in encouraging greater use of public transportation among Federal employees or, alternatively, whether the population of Federal employees using public transportation will remain roughly the same."

Do you think this effort is successful or do you agree with the GAO that it is too early to tell?

[The information follows:]

In the fall of 1992, WMATA conducted a survey of federal agencies that were participating in the "MetroPool" workplace transit program. At that time, the workplace transit benefit was $21 per month, and had just become available to the federal workforce thanks to the "Mikulski Bill," Public Law 101-509.

Our survey showed that at least 12% of the employees participating were new riders. The Department of Transportation headquarters alone was able to eliminate some 500 parking spaces within the first few months of the program. WMATA plans to survey the federal and private sector again in fall of 1993, in a more expansive study.

Since GAO's November 1992 report, MetroPool participation has grown dramatically, thanks to the $60-a-month benefit level that became effective January 1, 1993 under the Energy Policy Act, and WMATA's introduction on January 11, 1993, of the new Metrochek exchangeable farecard voucher into the MetroPool program.

Today, over 84 public agencies and nearly 300 private companies with an estimated 50,000 employees participate. In its first 90 days, the new MetroPool Metrochek program alone has generated $2.5 million in annualized sales and resulted in the signing of 70 of these agencies and businesses. At this rate, the MetroPool program likely will generate more in Fiscal 1994 than the $7 million generated the previous fiscal year.

We believe that workplace transit benefits are a significant incentive to employees everywhere. We also agree with the GAO that more time is necessary to judge the impact of these programs on ridership, but maintain that significant increases in account participation, revenues, and Metrochek participants demonstrate that there is a clear and growing need for these programs.

Mr. CARR. Appendix II of the GAO report (No. RCED-93-25) is a chart displaying the agencies and number of employees participating in the program. It shows a total participation rate of 37 percent, or 13,945 of 37,822 employees in the agencies involved.

However, I would just note that some of the participation rates seem, well, rather surprising. For example, it indicates that 1,200 of the Senate's 3,200 employees participate. And that fully 50 percent of NASA employees use the program.

Other high participation rates include 60 percent for the SEC, 94 percent for the U.S. Sentencing Commission, 46 percent for the CIA, and 100 percent for the National Transportation Safety Board. The Department of Transportation is listed at 30 percent.

Do you have any way of knowing if these figures are accurate?

[The information follows:]

All information on employee participation is updated periodically through telephone contacts or personal visits to our accounts, and is the best currently available data. Some small agencies do have 100% participation, since all employees use Metro. Others range from 4% to 93% according to our latest data (5/17/93). Many federal agencies and a few private sector businesses will not disclose participation data, so WMATA estimates this based on sales orders and a educated estimate of the population of the organization.

Currently, our data shows that, of the 84 federal employers participating, 31% of their employees participate in MetroPool. We are pleased with these participation rates and suggest that they indicate at least a minimum potential for the other 150 federal agencies in this area that currently do not participate in workplace transit programs.

Mr. CARR. Some of the estimates appear a little bit high. Are you aware of any abuse of this system? Do you know if there is any follow-up action to determine if employees are truly using transit or possibly just collecting the benefit?

[The information follows:]

WMATA has seen no abuses in the use of Metrocheks or WMATA fare media provided under the MetroPool program. We have, however, been concerned with abuses that result from the direct provision of cash to employees under the guise of transit benefit reimbursements.

Before the Energy Policy Act became law, employers were allowed a "loophole" under the IRS' transit benefit regulation whereby they could provide transit benefits to employees in cash as a "bona-fide reimbursement". This circumvented the intent of Public Law 101-509 which authorized federal employees to participate in transit benefit programs, since transit fare media was then not provided in some cases. WMATA feared that any direct provision of cash to an employee would not appear in the farebox nor be an incentive to use transit as intended.

Thanks to the Energy Policy Act, Congress denied any provision of a cash transit benefit ". . . where a voucher or similar [transit fare media] item is readily available . . .". WMATA then introduced its new "Metrochek," which met the requirements of this legislation and prevented cash reimbursement in this area.

Metrochek is an exchangeable voucher that works like a farecard on Metrorail, but can also be exchanged for the fares of 38 Washington-Baltimore transit organizations. Metrochek simplified employer administration while giving employees choice and access to commuter rail, rapid transit, and qualified vanpools.

Despite the passage of the Energy Policy Act, we understand that there are still a few federal agencies providing cash to employees, a practice disallowed under this legislation.

As we stated earlier, at least 12% of federal employees surveyed in the fall of 1992 were new riders. Our overall MetroPool program now serves an estimated 50,000+ employees in the public and private sectors.

Since the introduction of Metrochek in January 1993, interest in the MetroPool transit benefit program—and Metrochek in particular—has been tremendous. Since the benefit must be provided through an employer to an employee, we assume that few employers would start such a program if there were no clear benefit/use by its employees.

We plan a formalized fall 1993 survey of all clients to determine new rider conversions and participation rates.

REVENUE FROM TRANSIT BENEFIT PROGRAM

Mr. CARR. How much additional revenue do you think Metro is receiving from the Federal worker transit benefit program?

[The information follows:]

In the ten months ended May 3, 1993, the federal portion of the WMATA MetroPool program estimated $2.8 million in actual sales revenue for WMATA. We project that the year-end total for the federal portion of the MetroPool program will approach $4 million.

Mr. CARR. When is the benefit scheduled to expire? Is Metro taking any special actions to identify and try to retain these riders?

[The information follows:]

Public Law 101–509, the legislation that authorized federal agencies to participate in workplace transit benefit programs has a sunset provision of December 31, 1993.

In a focused effort to identify and retain MetroPool and Metrochek participants if the legislation is not reauthorized past December 31, 1993, WMATA has developed and is actively engaged in a concerted marketing and sales campaign to reach employees in both the private and public employment sectors. These efforts include electronic and print advertising, direct mail, telemarketing, orientation workshops, sales presentations and cold calls to employment centers.

Targeted marketing efforts are aimed at administrative, executive and human resources personnel within federal agencies and private companies, as well as efforts aimed directly at the employee/commuter population. Our requests for access to federal agency employee lists, for the purpose of direct mail marketing and research, have been repeatedly denied.

If P.L. 101–509 expires, federal agencies will be unable to provide transit benefits to their employees. This important legislation should be adopted permanently so that federal employees continue to have an incentive to use mass transit regularly and federal agencies have a powerful vehicle that assists them in meeting Clean Air Act requirements for the future.

As information, tax-incentive transit benefits have been available to the private sector since the 1970's.

METRO BUS FLEET

Mr. CARR. Mr. Gunn, you indicate in your statement that the Metro bus fleet, with an average age of 9.3 years, is among the oldest in the country.

How did this happen? Has there been overemphasis on the rail system in recent years that led to a neglect of the buses?

[The information follows:]

In some earlier years there was insufficient federal and/or local funding available to adequately address bus replacement requirements. For instance, WMATA purchased no buses in 1980, 1981, 1982, 1984 or 1985. The failure to maintain a stable replacement schedule during the early eighties' is why the fleet now averages 9.3 years. However, since 1986 buses have been purchased each year, except for 1991, which has had the effect of gradually lowering the average fleet age. Planned procurement actions over the next five years will continue to lower the fleet age to the point that it is consistent with industry and FTA standards.

Mr. CARR. What steps do you have planned to address the age and condition of the bus fleet?

[The information follows:]

The WMATA Board has committed to a multi-year bus procurement program, which calls for the purchase of approximately 700 buses over the next five years. This program will bring the average fleet age down to six years by fiscal 1998.

Mr. CARR. All of the current buses are diesels, is that correct? What actions are you taking to reduce particulate matter and other pollutants? How many buses currently have particulate traps? What is the cost to install a particulate trap on an existing bus?

[The information follows:]

All of the Authority's buses have diesel engines. In 1992 WMATA purchased two buses equipped with particulate traps for testing purposes. The 85 buses purchased this year all have particulate traps. It is anticipated that all future procurement of buses will specify particulate traps and clean diesel engines or alternative fuels.

The cost of installing particulate traps on an existing bus varies, depending on the model of the bus and the quantity to be retrofitted. Estimates range from $12,000 to $38,000 per bus. For example, to install traps on Metro Flexible buses, which comprise the bulk of WMATA's newer fleet, the manufacturer has quoted a price of $34,000 to $37,000 per bus, depending on quantity. This cost is on the higher end of the range because the installation of the traps on this model bus requires the relocation of the air conditioning unit.

ALTERNATIVE FUEL BUSES

Mr. CARR. What are Metro's plans for the future concerning buying alternative fuel buses?

[The information follows:]

WMATA staff has been closely monitoring industry research and testing of alternative fuel buses. While no plans have been specifically established, we are actively considering the feasibility of adding alternative fuel buses to the fleet. We should be making a decision shortly on the technology of future procurements.

METRO'S BUS MAINTENANCE

Mr. CARR. Due to the increasing age of the fleet, have Metro's bus maintenance costs risen rapidly in the past few years? Do you maintain statistics on bus maintenance that bear this out?

[The information follows:]

WMATA has not experienced rapidly rising bus maintenance cost over the past few years. In part, this is because the size of the fleet has been decreasing every year. Furthermore, although the average age of the fleet is unacceptably high, it has been somewhat lowered in the past few years because of the decreasing size of the fleet and the purchase of new buses. On the other hand, we do maintain complete records on the maintenance of each bus. Research has shown that there is a direct relationship between the age of a bus and the cost and frequency of repairs.

Mr. CARR. Have you performed an economic alternatives analysis that led you to the purchase of additional buses in order to lower overall costs?

[The information follows:]

An economic analysis on bus procurements was done in 1990, which resulted in the WMATA Board of Directors establishing a replacement cycle of 100 buses per year. Since actual replacements have not reached the desired level, the Board in 1993 committed to a four-year increase in bus procurements to bring the fleet age down to acceptable levels.

BUS PURCHASE PLAN

Mr. CARR. Provide for the record the bus purchase plan for fiscal years 1994–1998. Indicate the number of buses to be purchased, cost, size and fuel source.

[The information follows:]

Between fiscal year 1994–1998 WMATA plans to purchase 674 buses, as follows:

[Dollars in million]

	40 ft. standard	60 ft. articulated	Cost
1994	115	25	$35.4
1995	150		40.1
1996	150		41.8
1997	150		43.5
1998	51	33	30.3

All buses purchased will be equipped with particulate traps and clean diesel engines or will have alternative fuel capability. All buses purchased will be wheelchair lift equipped.

SOUTHEAST BUS GARAGE REPLACEMENT

Mr. CARR. One of the major components of Metro's six-year, $823 million Capital Improvement Program is garages. The biggest part of the garage program is the replacement for the Southeast garage. Estimates for the Southeast garage replacement range up to $90 million and more.

What is the best cost estimate for replacing the Southeast garage in its present location at South Capital, Half and M Streets, S.E.?

[The information follows:]

The best and most recent cost estimate is $88 million. This amount includes contamination investigation, land acquisition, design, construction and project management.

Mr. CARR. How much of that total is site specific?

[The information follows:]

The estimated value of the land is $43 million. This includes land acqisition, relocation of occupants, demolition and project management.

BUS GARAGES

Mr. CARR. What are the cost estimates at other sites in the city? Potentially, how much could be saved by relocating the garage?

[The information follows:]

The estimated costs of constructing the garage at the two alternative sites evaluated in the Environmental Assessment are:

	Million
WGL Site at 12th and M Streets, S.E.	$66.5
Howard Road Site at I–295 and Suitland Parkway, S.E.	$63.5

Although costs estimates for both alternative sites are lower than that for the preferred site at Half and M Streets, S.E., other factors such as the mitigation of contamination may cause these costs to increase when additional information becomes available. It should also be noted that a part of the higher cost of Half and M Streets could be offest by the revenues from future air rights development.

Mr. CARR. Is there any operational requirement for the garage to be located at the current site?

[The information follows:]

While there is no specific operational requirement for the garage to be located at its current site, this site was selected after extensive analysis of over 30 potential sites as best meeting WMATA's operational, environmental, locational and physical objectives. The Site has direct access to arterial roads, centrally located to the bus routes to be operated from the facility and compatable with surrounding land uses and consistent with local zoing and development plans and policies. For these reasons it is the preferred location.

SOUTHEAST GARAGE REPLACEMENT

Mr. CARR. Can you provide some detail for the cost of the Southeast garage replacement? For example, how much is for additional land, how much for equipment, how much for site preparation, how much for A&E services, et cetera?

[The information follows:]

	Million
Preliminary and final design and contamination Investigation (A&E Service)	$3.6
Land acquisition	38.2
Construction	34.2
Equipment	3.4
Project management	8.7
Total	88.1

Mr. CARR. How and when will a decision be made concerning a Southeast replacement garage? Under existing procedures, the Federal Government would pay 80 percent of the cost to construct the new facility; is that right?

[The information follows:]

In response to issues and questions raised at the Public Hearing, WMATA will prepare a Staff Report that includes recommendations on site selection. This Report together with the Environmental Assessment (EA) will be submitted to the WMATA Board for approval in the Fall of 1993. Subject to acceptance of the Half and M Streets location, the final EA and Staff Report would then be sent to the Federal Transit Administration for approval, with a decision expected in December 1993.

If approved by FTA, funding for this project would come from Section 9, Federal assistance funds. These funds are apportioned by formula with the Federal share of any project fixed at 80 percent.

Mr. CARR. What public pronouncements have the mayor and Metro board members made about the Southeast garage replacement project?

[The information follows:]

On July 19, 1991, the City Administrator for the District of Columbia sent a letter to the General Manager of WMATA stating that "the new 250 bus replacement garage should be built at the existing location of Half and M Streets, S.E."

On December 19, 1991, the WMATA Board adopted a motion that "Half and M Streets, S.E. was the preferred location for the new Southeast bus garage, with the existing facility to be expanded to accommodate 250 buses to fulfill regional needs".

On April 14, 1993, WMATA held a Public Hearing on the Environmental Assessment (EA) for the replacement of the Southeast bus garage. Half and M Streets, S.E. was listed in the EA as the preferred site for the garage replacement and D.C. officials submitted written statements in support of this location. The selection of Half and M Streets as the preferred site remains the official policy of the District of Columbia and the WMATA Board.

Mr. CARR. Press reports have indicated that if the garage is relocated, the current site might become a major development project, involving multi-use space and attracting thousands of jobs.

Do you know the status of any alternative plans that include the site of the existing Southeast garage?

[The information follows:]

The Southeast Federal Center Master Plan was prepared in 1989 for the General Services Administration and approved by the District of Columbia in 1991.

The Anacostia Waterfront Master Plan, Phase I and Phase II was prepared in draft form in 1991 by the Federal City Council, but has not been adopted as of this date.

The Buzzard Point/Near Southeast Vision 2020 Plan was prepared in October 1992 by the D.C. Office of Planning and makes reference to an expanded Metro bus garage at Half and M Streets, S.E. This plan has been to Community Hearings, but has not been adopted as of this date.

With reference to the issue of multi-use space, it should be noted that the WMATA site plan for a new garage at Half and M Streets, S.E. makes provision for future air rights development.

RECENT METRO OPERATIONS—WEST FALLS CHURCH INCIDENT

Mr. CARR. Mr. Gunn, the April monthly report for Metro overall indicates excellent performance for the system. For example, on-time performance was 99.5 percent, compared with a goal of 99.1 percent. Rail service, elevator and escalator availability all exceeded goals. Even average weekday ridership was above the estimate.

There was an incident involving the shooting of a Metro customer this February at the West Falls Church park and ride lot. What are the specifics of this situation.

[The information follows:]

On February 12, 1993, at 9:26 PM, Mary Rodimon of Leesburg, Virginia, was shot once in the back after leaving the West Falls Church Station and walking to her car in the parking Lot. She made her way back into the station and collapsed near the kiosk. Ms. Rodimon indicated that before she was shot, she was approached at her car by two men who demanded money.

A description of the suspect was provided to both Metro Transit Police and Fairfax County Police. Based on this description, Metro Transit Police Officer James Lyle recalled that he previously issued a traffic ticket to a person matching the description. This information was provided to the Fairfax County Police who arrested the person as the suspect sought in connection with this shooting. The court case is scheduled for June 7, 1993.

SECURITY AND SAFETY ASSESSMENT

Mr. CARR. In general, how do you assess the security and safety of the Metro system?

[The information follows:]

The Metrorail system is exceptionally safe. Last year, there were only 7 incidents (including auto thefts and pickpockets) per million trips taken, and so far this year that rate has been reduced to 4 incidents per million trips.

CAPITAL AND OPERATING SHORTFALLS

Mr. CARR. Information provided to the committee by WMATA indicates the potential for budget shortfalls in both the capital and operating budgets in the future. Looking first at the capital program, WMATA's data shows a deficit of $149 million over the next four years.

What is Metro's plan to live within likely capital resources? What projects will you have to defer or eliminate?

[The information follows:]

All projects are essential and critical. It is our intention to fund all projects with additional resources. These resources would include greater funding of the transit authorizations by your Committee, the transfer of ISTEA apportionments by the state and local governments in the Washington Transit Zone, and additional funding by WMATA compact members.

OPERATING SHORTFALL

Mr. CARR. For the operating budget, WMATA's data shows an increase of $34 million, or 11.6 percent, that may be required in the local operating subsidies for Metro.

What are your plans for dealing with this shortfall? Do you think you will be able to address it without increasing fares?

[The information follows:]

Your question refers to our early projection for fiscal 1995. We will be reviewing the financial projections for fiscal 1995 as well as service productivity, ridership trends, and local economic tends before we consider the possibility of a fare increase.

METRO IMPROVEMENT PROGRAM

Mr. CARR. Recent press reports have indicated that the only planned improvement in Metro rail service this year may have to be scrapped. The new service was more frequent trains on Saturdays. It may not take place because it would cost an additional $300,000 to implement it.

Are there any similar efforts that may have to be deferred or deleted due to the budget crunch?

[The information follows:]

Enhanced Saturday service was supported by the Board and will be implemented in fiscal 1994 without increasing subsidy. All other enhancements contained in the approved Fiscal 1994 budget are scheduled to be implemented.

OPERATING SUBSIDIES TO LOCAL JURISDICTIONS

Mr. CARR. Provide the committee some information about the operating subsidy situation. For example, how is the subsidy distributed among the local jurisdictions?

[The information follows:]

The local jurisdictions have negotiated formulas to determine each jurisdiction's share of bus and rail subsidy. The bus and rail formulas are quite different, reflecting the nature of the service. The rail subsidy formula allocates the shortfall between operation costs and revenues using three factors that reflect how each jurisdiction benefits from the system, depending upon each entity's share of: (1) stations, (2) ridership, and (3) population weighted by population density according to the 1990 census. The bus allocation formula allocates costs of service in each jurisdiction and revenues collected in that jurisdiction separately to reflect the varying local objectives in establishing fares and levels of service. Costs are allocated using distributions of bus miles, bus hours, and peak period buses by jurisdiction. Revenues reflect the riders utilizing each jurisdiction's service and the amount of fare paid.

Mr. CARR. Also, how is the subsidy targeted? That is, how much is for bus operations and how much for train?

[The information follows:]

The costs and revenues for bus and rail service are budgeted and reported separately for both modes of service. For fiscal 1994 rail subsidy is estimated to be $90 million, and bus subsidy is projected at $192 million. These figures represent the costs of providing bus and rail service and the revenues attributed to each.

SERVICE REDUCTIONS OR ELIMINATIONS

Mr. CARR. Is reducing service, especially on underutilized bus routes, one possibility for making up some of the operating subsidy shortfall? How likely an outcome do you think this is?

[The information follows:]

Service productivity is reviewed continually to maximize the efficiency of operation. In fiscal 1994, we have budgeted a subsidy savings of approximately $2.5 million as a result of these reviews.

Mr. CARR. How and when are decisions made to reduce or eliminate service for the most uneconomical routes?

[The information follows:]

Metrobus route performance is monitored and evaluated on a continuing basis throughout the year. A comprehensive assessment of the performance of all Metrobus routes is conducted and reported twice a year. Routes performing below expectation are examined for corrective measures, including service improvements and/or service reductions. The reduction or elimination of Metrobus service is an option if corrective measures would not appreciably improve the performance of a route.

Major service reductions or route eliminations may be implemented twice a year in conjunction with the Operators' bi-Annual selection of work assignments. Proposals for major service reductions or service eliminations are presented for public comment at public hearings conducted in the jurisdictions effected by the potential service change. Proposed service reductions or service eliminations may only be implemented with the approval of the WMATA Board of Directors.

METRO VIDEO SCREENS

Mr. CARR. Tell the committee what Metro is contemplating regarding video screens. What is the function of the screens?

[The information follows:]

At this time, Metro is studying the possibility of using passenger information systems either in the form of video screens or light emitting diode (L.E.D) displays. The selection of what type of system will depend on the architectural compatibility with our stations and trains. These displays, regardless of type selected, will provide passengers, especially those with hearing impairment, information on train operations, delays, elevator outages and other pertinent information.

Mr. CARR. What is the estimated cost of such a system?

[The information follows:]

The cost of the system will depend upon which system is selected and the number of displays or t.v. monitors to be used at each station. Our latest market survey indicates that for such a system to be provided in both Metrorail stations and trains, the cost could be anywhere between $3.6 million and $29.5 million. It should be noted, however, that due to physical limitations video screens cannot be used inside Metrorail cars.

Mr. CARR. Is there any economic benefit in installing the screens? Do the benefits outweigh the costs?

[The information follows:]

The requirement for installing such a display system in the stations is based upon the Americans With Disabilities Act which mandates that all audible announcements must be duplicated in the stations for these persons with hearing impairments. As to the economic benefits, such benefits cannot be totally assessed until our architects and designers finalize their compatibility study which will determine the feasibility of using one system versus the other and seeking proposal from the market place.

Mr. CARR. What has been the experience of other transit systems that have installed such systems?

[The information follows:]

Our survey of transit properties in the U.S. provides a mixed review. This is due to the problem of using video screens for any outdoor applications as sunlight diminishes their visibility and the fact that light emitting diode technology has not yet been implemented on a large scale in any system in the U.S.

METROCHEK

Mr. WOLF. Mr. Gunn, telephone users have the "One Book," and now in the Washington area, transit commuters have the "one pass." Has the unified fare collection system which allows passengers on other systems to interface with Metro been a success?

[The information follows:]

The program you refer to is called "Metrochek," and it has been a tremendous success in this area. Metrochek was conceived and developed by WMATA, but it is truly a joint effort of WMATA and the regions transit organizations.

Metrochek was developed in anticipation of the new Energy Policy Act, which became law on January 1, 1993. The actual Metrochek product was added to the MetroPool workplace transit program product mix on January 11, 1993. Metrochek allows transit riders in the Washington-Baltimore region to access transit using only one fare media. Metrochek was developed to meet all requirements of the Energy Policy Act, to simplify employer administration, and to give employees the freedom to choose the transit that best fits them.

Since January 1993, 70 new businesses and organizations have purchased Metrocheks—a rate that is quadruple WMATA's sign-up rate for an entire year. WMATA now serves some 50,000 employees in 84 federal agencies and nearly 300 private sector businesses under the MetroPool program.

Thirty-eight area transit organizations participate with WMATA in providing service to people throughout the area. The Metrochek program has also proven to be a unifying mechanism that has helped all area transit providers to work together as a team in providing mass transit.

Mr. WOLF. Can you share with the committee briefly how this system works?

[The information follows:]

Metrochek is a product of the MetroPool workplace transit program. A Metrochek is simply an exchangeable farecard/voucher, issued in $1, $5, $10, $20, $21 and $30 denominations. Metrocheks are purchased by employers and provided to participating employees at the workplace. These employees can receive any amount up to $60 tax-free from their employer; the benefit is tax-deductible for private sector employers.

Metrochek users have two basic options. Use Metrochek as a farecard on Metrorail, or exchange it before first use for any other Metro fare, or for the fares of 38 participating area transit organizations. This includes commuter trains, Metrorail, Metrobus, plus qualified commuter bus and vanpool systems. When used on Metrorail, riders get a bonus of five percent on metrocheks valued between $10 and $19.95, and ten percent on Metrocheks of $20 or more. The bonus value is not good in exchange for other fares.

Metrocheks are not redeemable for cash, and no change is returned upon an exchange; the rider receives the equivalent in fares. Metrochek gives employees their choice of ridership on just about every transit system in the Washington area. With Metrochek, employers no longer need to worry about carrying the fares of 38 different transit organizations, greatly simplifying administration. And Metrochek gives participating transit providers throughout the area access to the workplace through the MetroPool program; they need not set up their own programs.

ELEVATOR/ESCALATOR MAINTENANCE

Mr. Wolf. Mr. Gunn, you indicated in your statement that Metro is requesting staff increases for only two areas, Greenbelt and *in-house* maintenance of elevators and escalators. Elevator and escalator problems have bedeviled the Metro system for a long time. Will in-house maintenance result in a decrease in complaints, and will it save money?

[The information follows:]

One of the prime rationale for our decision to bring maintenance of escalators and elevators in-house at WMATA is our belief that we can improve the overall reliability and availability of this critical equipment to our passengers, combined with our ability to maintain this equipment after revenue hours at a reasonable cost. We estimate that cost savings for full in-house maintenance for elevators and escalators will be $2.7 million per year while providing much improved maintenance.

RIDERSHIP AND FARE STRUCTURE

Mr. Wolf. Mr. Gunn, you indicated that we can expect major dividends in terms of reduction of the traffic congestion in the I-95/395 corridor once the Franconia-Springfield station opens in 1997. It has been estimated that the opening of the Virginia Railway Express removed the equivalent of one lane of single-occupant vehicle traffic from the I–95 and I–66 corridors. Do you have similar hopes for the effect of the Franconia-Springfield station? Do you have a projection of the number of drivers you expect to lure off the busy I–95/395 corridor?

[The information follows:]

The opening of the Franconia-Springfield station in 1997 should have a major impact on traffic in the I–95/395 corridor.

Our most recent ridership forecasts (for the year 2010) show that about 12,000 people will be using the Franconia-Springfield station each weekday. Of this number, 7,500 are expected to enter during the morning peak period (between 5:30 and 9:30 a.m.); 3,000 are expected during the peak one hour. If these 3,000 people were to drive in single-occupant vehicles, it would require two lanes of capacity on I–95/395.

We are building 3,200 parking spaces at the Franconia-Springfield station, all of which are expected to be used. Given the convenient location of this station, the congestion on I–95/395 (especially for single-occupant vehicle drivers) and the fact that there are no other major transit parking facilities in the corridor, we can expect to remove between 2,500 and 3,000 cars a day from I-95/395. In addition, passengers opting to use feeder bus service to the station could further reduce the number of vehicles on the road.

FAST TRACK CONSTRUCTION

Mr. WOLF. "Fast Track" envisions a steady level of funding from this subcommittee in the $200 million range for the next five years, which will underpin some necessary borrowing in order to complete the system ahead of schedule. Mr. Gunn, you indicated that Metro will use its steady Federal funding stream to leverage a $750 million line of credit. What will be the debt service on this credit, and has it been built into completion costs?

[The information follows:]

The debt service cost has two components: a cost for having the line of credit available for obligational authority and an interest cost for actual amounts of cash borrowed, which depends upon interest rates. The debt service costs are also dependent on the level of appropriation. If appropriations are made at the projected level of $200 million annually, the debt service costs range from $12.9 million to $16.2 million, of which $11.2 million represents obligational authority cost. If appropriations are made at 90% of the projected level of $200 million, or $180 million annually, the debt service costs range from $21.1 million to $32.8 million, of which $15.2 million represents obligational authority cost.

The debt service costs are an eligible project cost and are included in the Full Funding Agreements.

RAIL IN THE DULLES CORRIDOR

Mr. WOLF. Mr. McManus, to date, how many studies have been done on the issue of rail in the Dulles Corridor?

[The information follows:]

There have been three studies completed on the Dulles Corridor: (1) The Dulles Airport Access Road Corridor Transit Alternatives Study (FTA funded); (2) A Mass Transit Plan for the Tyson's/Dulles Corridor (Dulles Access Rapid Transit funded); and (3) the Dulles Corridor Plan by the Commonwealth Transportation Board (CTB) which adopts the recommendations of the Dulles Airport Access Road Corridor Alternatives Study.

Mr. WOLF. How much have these studies cost, both in Federal dollars and in local funding?

[The information follows:]

The Dulles Airport Access Road Corridor Transit Alternatives Study, completed in 1989, was the only Dulles corridor study funded by FTA. The total cost was $312,000 with FTA portion being $250,000 and the local share of $62,000.

Mr. WOLF. Mr. McManus, do you think FTA will ever award the $6 million grant for the Dulles rail study authorized in FTA?

[The information follows:]

The grant will be awarded if discretionary funds are specifically appropriated for this purpose. However, even if funds are not specifically appropriated, there are a number of other Federal funding sources that could be used for this study. For example, the State of Virginia received $13.9 million in Surface Transportation Program (STP) funds and $20.5 million in Congestion Mitigation and Air Quality (CMAQ) funds in FY 1993 which could be used to fund the study. In addition, the Washington D.C. area's total apportionment of Section 9 funds in FY 1993 was $49 million, some of which could be used for the Dulles study.

Mr. WOLF. Is it correct that if that grant is never approved by the FTA, then the State of Virginia will not be able to seek reimbursement for the amount specified in the State's Letter of No Prejudice with the FTA?

[The information follows:]

The State of Virginia could seek reimbursement of the Federal share of costs incurred up to the authorized amount of $750,000 under the outstanding Letter of No Prejudice. Even though Federal funds and a potential grant of up to $6 million may not be subsequently approved to undertake preliminary engineering and alternative analysis of the Dulles project, the preliminary study efforts undertaken by the state to date for this project under the no prejudice authority could, if properly justified and deemed to be a useful product, be approved for Federal funding if the state were to submit a grant application for that activity. The grant application would, to be approvable, have to meet all statutory and administrative requirements of the Federal Transit Act as amended.

Mr. WOLF. In the future, when we do reach the point of rail service in the Dulles corridor, is it FTA's opinion that it should be an extension of Metro? Since a different system would require a transfer at the West Falls Church station, do you believe that would negatively affect ridership potential?

[The information follows:]

Whether or not to use bus, light rail, or heavy rail technology in the Dulles Corridor is a local decision resulting from the Alternatives Analysis/Draft Environmental Impact Statement process.

While a transfer at the West Falls Church Station would reduce ridership compared to direct service, the lower ridership could be offset by significantly lower capital and operating cost. Once the detailed impacts of rail (heavy and light) and bus alternatives with and without the transfers have been assessed, those tradeoffs can be better analyzed.

METROCHECK

Mr. WOLF. Mr. McManus, are other transit systems around the country offering this type of "seamless" fare pass for passengers making transfers among systems?

[The information follows:]

Many of the larger, integrated transit operations have a voucher system comparable to the Metrochek here in Washington. One central agency, often the transit operator, accepts payment for the voucher, which the patrons can then redeem for a variety of fare media, of their own choosing and convenience. However, there are no truly "seamless" fare passes across any available mode at the present time. There are combined bus and subway fare passes, such as the FlashPass here in Washington, or the Commuter/Subway monthly pass in Boston, but there is no system that provides a seamless trip on bus, subway, commuter rail, and ferry boat (for example) with a single fare medium. However, FTA is supporting the study of "smart card" technologies, which would allow an individual to pay for transit service, regardless of mode, with the same fare medium. In this case, it would be a transit debit card that would be usable on buses, trolleys, subways and trains. A central processing facility would monitor which modes were used and would allocate revenues accordingly.

METRO OVERMATCHING

Mr. WOLF. The 1990 authorization for the remaining 13.5 miles of the Metro system required a 62.5–37.5 match (previously, under Stark-Harris, it had been 80–20). Mr. McManus, how does this match compare to matches for transit systems around the country?

[The information follows:]

The majority of the "New Start" rail construction projects around the country have been funded at the previously legislated Federal level of 75 percent and, with passage of the Intermodal Surface Transportation Efficiency Act, at the statutory 80 percent. However, with increasing competition for Federal discretionary funds, a number of rail systems are being constructed at this time with substantial local overmatch of the Federal share. Notable among these is Dallas, Texas which has provided a 56 percent local match for their initial 9.6 mile light rail system presently under construction and, ultimately, an overall 80 percent local match for the full

20 mile system being planned. The initial 11.1 miles of the Los Angeles heavy rail system have been funded with a 50 percent local match of Federal funds.

In addition, a number of projects in the planning or final design stage are predicated upon substantial local overmatch to attract Federal participation such as the City of Chicago's central city light rail system which anticipates one third of the construction cost from, respectively, the State of Illinois, private sources and Federal transit funds.

It should be noted that the Washington Metrorail project enjoyed 80 percent Federal funds in the amount of $1.7 billion during an era when all other new rail transit construction was financed with 75 percent Federal funding.

RIDERSHIP PROJECTIONS

Mr. **Wolf**. The Pickrell report that the Chairman referred to when he was discussing the ridership projections indicated that, compared to most transit systems, Metro's projections haven't been that far off. But even Metro's overall original estimate was 28% off—and Metro was the best of all transit systems examined in the study. Given the overall decline in ridership nationwide, how do we justify transit subsidies to the American taxpayers? (congestion relief, cleaner air, better quality of life, etc.)

[The information follows:]

The purpose of the Pickrell report was to assess how well planned ridership and costs of federally funded rail systems matched the actual ridership and costs once the systems were completed, and to recommend ways to improve the forecasting process. The study was not intended to assess the worthiness of rail projects or transit subsidies, which involve a much broader and more complex study. The great majority, more than 75 percent, of FTA funding is not for new or extensions to existing rail systems, but for operating and replacing existing assets.

The decline in transit ridership in many cities is a function of many factors. Probably the most significant of these are the continued decentralization of employment and population in our cities making it more difficult for transit to serve trip making to these low density activities, gasoline costs that are cheaper in real terms than any period since World War II, transit fares which increased in real terms about 40 percent since 1980, and the increase in trip making that may involve multiple stops which is difficult for transit to serve. Despite these negative factors, ridership has not declined nationally in absolute numbers. Transit subsidies have halted the ridership decline of the 1945–1965 period and led to modest increases in transit use nationwide. Transit subsidies are justified on the basis of supporting a number of societal mobility and environmental goals. Transit provides mobility for those who cannot afford transportation by other means. For many cities transit carries a third or more of those working in the central business district, thereby having a significant impact on congestion and clean air.

OPERATING BUDGET

Mr. **Carr**. Please update the table appearing on page 335 of the 1993 hearing volume concerning WMATA's operating budget summary.

[The information follows:]

OPERATING BUDGET SUMMARY

[In millions of dollars]

	Fiscal year 1993 budget			Fiscal year 1994 budget		
	Cost	Revenue	Subsidy	Cost	Revenue	Subsidy
Bus	293.7	99.1	194.6	291.1	99.5	191.6
Rail	304.1	224.6	79.5	318.3	228.3	90.0
Americans with Disabilities Act	1.0	1.0	0	2.1	0	2.1
Subsidized Rail Construction Management	2.5	0	2.5	2.4	0	2.4
Total	601.3	324.7	276.6	613.9	327.8	286.1

OPERATING BUDGET SUMMARY—Continued

[In millions of dollars]

	Fiscal year 1993 budget			Fiscal year 1994 budget		
	Cost	Revenue	Subsidy	Cost	Revenue	Subsidy
Federal Assistance			16.1			16.1
Net total			260.5			270.0

FAREBOX RECOVERIES

Mr. CARR. Please update the table also appearing on page 335 of the 1993 hearing volume relating to farebox recovery ratios.

[The information follows:]

FAREBOX RECOVERY RATIO

	Fiscal 1993 budget			Fiscal 1994 budget		
	Bus	Rail	Total	Bus	Rail	Total
Cost	$293.7	$304.1	$597.8	$291.1	$318.3	$609.4
Revenues	$99.1	$224.6	$323.7	$99.5	$228.3	$327.8
Subsidy	$194.6	$79.5	$274.1	$191.6	$90.0	$281.6
Revenue/Cost (percent)	33.7	73.9	53.7	34.2	71.7	53.3

Mr. CARR. Please provide information regarding carryover funding similar to the data displayed on page 339 of the 1993 hearing volume.

[The information follows:]

	Millions
89.5 Mile Work:	
Modifications/Claims/Closeouts	$116.1
Project Management (FY 1994 and beyond)	33.8
System Start-Up	3.3
Construction Projects Awaiting Obligation	69.8
Total 89.5 Mile Work (Federal & Local Funds)	223.0
103 Mile Work:	
Van Dorn to Franconia-Springfield	104.7
Wheaton to Glenmont	142.9
U Street to Fort Totten	38.2
Anacostia to Branch Avenue	29.2
Operations Control Center	2.3
Total 103 Mile Work (Federal & Local Funds)	[1] 317.3

[1] The fiscal 1993 grants were approved by the FTA in April 1993. By April 1, 1994 we anticipate obligating all of the carryover funds plus using a credit facility to implement the fast track program.

COMPARATIVE BUS OPERATIONS

Mr. CARR. Please update for the record the comparative data on the WMATA's bus operations that was included on page 337.

[The information follows:]

TRANSIT SYSTEMS	VEHICLES OPERATED IN MAXIMUM SERVICE		TOTAL OPERATING EXPENSE (DOLLARS)						VEHICLE MAINTENANCE EXPENSE PER REVENUE VEHICLE MILES	
			PER REVENUE VEHICLE HOUR		PER UNLINKED PASSENGER TRIP		PER EMPLOYEE			
	1990	1991	1990	1991	1990	1991	1990	1991	1990	1991
SCRTD - LOS ANGELES	1929	1968	79.6	71.3	1.4	1.2	69624	65234	1.6	1.6
CTA - CHICAGO	1806	1796	49.1	49.8	0.8	0.9	49909	49722	1.3	1.2
MBTA - BOSTON	858	755	89.6	98.4	1.8	1.9	63407	67708	1.6	1.7
NJT - NEWARK	1680	1551	69.3	72.5	2.3	2.5	61511	64867	0.9	0.9
NYCTA - NEW YORK	3068	2963	86.4	72.7	1.4	1.2	66543	56440	2.8	2.5
SEPTA - PHILADEPHIA	1118	1097	44.9	42.0	0.8	0.8	39623	35671	1.5	1.1
PAT PITTSBURGH	779	730	50.4	53.3	1.4	1.4	45027	47050	1.1	0.9
METRO - SEATTLE	878	840	65.4	69.5	1.6	1.8	39365	41229	1.1	1.2
WMATA - WASH, D.C.	1410	1441	76.2	81.1	1.6	1.6	53094	55162	1.3	1.3
RANKINGS	(5)	(5)	(4)	(2)	(3)	(4)	(5)	(5)	(5)	(4)

CAPITAL FUNDING SOURCES

Mr. CARR. Please update the data appearing on page 339 of the 1993 hearing volume concerning the sources of WMATA's capital funding budget.

[The information follows:]

	Fiscal year—		WMATA request
	1993	1994 President's budget	
Federal Stark-Harris	$16.1	0	0
Re-authorization	[1] 153.9	$200.0	$212.0
Bus and Rail Improvements - Section 9/3	41.9	[2] 64.5	49.8
Total—Federal	211.9	264.5	261.8
Local match	105.3	136.25	139.65
Total	317.2	400.75	401.45

[1] Includes Project Management Oversight Committee (PMOC) funds which are retained by FTA.

[2] The President's Budget does not include money for operating assistance.

FISCAL YEAR 1994 CONSTRUCTION FUNDING

Mr. CARR. Please provide information on the fiscal year 1994 proposed construction program similar to that displayed on page 340 of the 1993 hearing volume.

[The information follows:]

The fiscal 1994 program is made up of $212 million from the reauthorization for work to complete the 103-mile system plus local match and a credit facility to implement the fast track program.

103 Mile Work:	*Millions*
Project Management	$23.6
Design	
Glenmont	.5
Anacostia to Branch Avenue	16.6
Real Estate	
U Street to Fort Totten	10.9
Anacostia to Branch Avenue	58.3
Construction	
Van Dorn to Franconia-Springfield	75.8
Wheaton to Glenmont	92.3
U Street to Fort Totten	285.9
Operations Control Center	1.0
Total	$564.9

RAIL CONSTRUCTION OBLIGATIONS

Mr. CARR. Please update the table beginning on page 340 of the 1993 hearing volume dealing with obligations for rail construction.

[The information follows:]

The annual and cumulative obligations since the start of the rail construction program are:

[In millions of dollars]

	Annual	Cumulative
Calendar year:		
1969	87.9	87.9

[In millions of dollars]

	Annual	Cumulative
1970	126.1	214.0
1971	285.8	499.8
1972	513.1	1,012.9
1973	318.9	1,331.8
1974	510.9	1,842.7
1975	395.7	2,238.4
1976	427.4	2,665.8
1977	324.1	2,989.9
1978	336.5	3,326.4
1979	328.4	3,654.8
1980	359.4	4,014.2
1981	430.9	4,445.1
1982	222.7	4,667.8
1983	291.1	4,958.9
1984	169.4	5,128.3
1985	350.5	5,478.8
1986	208.3	5,687.1
1987	301.3	5,988.4
1988	394.7	6,383.1
1989	302.2	6,685.3
1990	246.2	6,931.5
1991	150.7	7,082.2
1992	142.6	7,224.8

STATE AND LOCAL FUNDING

Mr. Carr. Please update the table appearing on page 341 of the 1993 hearing volume concerning state and local funding contributions.

[The information follows:

TOTAL STATE/LOCAL CONTRIBUTIONS

[In millions of dollars]

Fiscal year	Rail construction program [1]	Capital improvement	Operating assistance [2]	Debt service	Total
1985	47.5	6.5	164.4	27.5	245.9
1986	36.4	4.3	178.5	27.5	246.7
1987	31.3	9.2	188.8	27.5	256.8
1988	25.7	7.6	199.6	[3] 27.5	232.9
1989	22.0	6.4	214.6	27.5	270.5
1990	6.1	7.3	222.7	27.5	263.6
1991	7.0	7.3	248.6	27.5	290.4
1992	57.3	7.6	254.2	27.5	346.6
1993	95.9	9.5	260.5	27.5	393.4
1994	120.0	12.4	270.1	27.5	430.0

[1] Net of WMATA investment earnings.

[2] Net of federal operating assistance.

[3] Net of WMATA investment earnings applied to the $2.5 million shortfall.

LOCAL CONTRIBUTIONS

Mr. Carr. Also, please update the table regarding the amount of contributions from each jurisdiction, similar to the information displayed on page 342 of the 1993 hearing volume.

[The information follows:]

Answer:

	Rail construction	Debt service	Capital program	Operating assistance	Total
District of Columbia	382,869	115,966	57,884	1,409,040	1,965,759
Montgomery County	211,632	57,320	16,552	418,130	703,634
Prince George's County	154,208	57,385	15,867	388,703	616,163
Alexandria	48,673	15,605	6,879	143,002	214,159
Arlington County	98,426	30,151	10,104	226,546	365,227
Fairfax City/NVTC	11,899	558	331	6,379	19,167
Fairfax County	115,410	34,862	14,764	453,759	618,795
Falls Church	1,573	453	506	10,155	12,687
Total	1,024,690	312,300	122,887	3,055,714	4,515,591

OPERATING ASSISTANCE

Mr. CARR. Please update the table on page 341 of the 1993 hearing volume relating to operating assistance.

[The information follows:]

OPERATING ASSISTANCE [1]

Fiscal year	Millions	Annual percent increase
1993	$304.0	
1994	318.5	4.7

[1] Includes WMATA debt service.

PERFORMANCE INDICATORS

Mr. CARR. Please update the charts that appear on pages 343–344 of the 1993 hearing volume concerning WMATA's metrorail and metrobus operations indicators.

[The information follows:]

METRORAIL STATISTICS
For The Fiscal Years 1989 Through 1994

	1989 ACTUAL	1990 ACTUAL	1991 ACTUAL	1992 ACTUAL	1993 APPROVED	1993 FORECAST	1994 ESTIMATE
Total Car Miles (000s)	n/a	n/a	n/a	n/a	42,616	42,618	44,143
Scheduled Car Miles (000s)	35,926	36,322	40,530	40,452	41,071	41,071	42,596
Total Passengers (000s)	144,013	145,025	147,077	145,446	147,635	145,935	149,149
Total Operating Cost (000s)	$230,907	$243,978	$261,126	$286,683	$304,079	$301,911	$319,255
Total Revenue (000s)	$172,904	$186,126	$189,251	$209,707	$225,565	$222,723	$228,601
Total Operating Assistance (000s)	$58,003	$57,852	$71,874	$76,976	$79,514	$80,189	$90,654
Total Passenger Revenue (000s)	$157,417	$170,899	$173,369	$195,969	$210,111	$207,611	$213,146
Passengers Per Scheduled Car Mile	4.01	3.99	3.63	3.60	3.59	3.55	3.50
Passengers Per Scheduled Cars	303,825	287,748	286,142	269,344	265,531	267,280	246,835
Cost Per Scheduled Car Mile	$6.43	$6.72	$6.44	$7.09	$7.40	$7.35	$7.49
Cost Per Passenger	$1.60	$1.68	$1.78	$1.97	$2.06	$2.07	$2.14
Average Passenger Fare	$1.09	$1.18	$1.18	$1.35	$1.42	$1.42	$1.43
Passenger Revenue Per Scheduled Car Mile	$4.38	$4.71	$4.28	$4.85	$5.12	$5.05	$5.00
Operating Assistance Per Passenger	$0.403	$0.399	$0.489	$0.529	$0.539	$0.549	$0.608
Percent of Operating Assistance to Total Cost	25.1%	23.7%	27.5%	26.9%	26.1%	26.6%	28.4%
Percentage of Total Revenue to Cost	74.9%	76.3%	72.5%	73.1%	74.2%	73.8%	71.6%
Percentage of Passenger Revenue to Total Cost	68.2%	70.0%	66.4%	68.4%	69.1%	68.8%	66.8%

METROBUS STATISTICS
For The Fiscal Years 1989 Through 1994

	1989 ACTUAL	1990 ACTUAL	1991 ACTUAL	1992 ACTUAL	1993 APPROVED	1993 FORECAST	1994 ESTIMATE
Total Bus Miles (000s)	50,260	50,260	51,350	50,154	47,930	47,930	47,148
Scheduled Bus Miles (000s)	n/a	n/a	n/a	n/a	47,246	47,246	46,010
Total Passengers (000s)	139,456	140,295	140,370	136,051	133,232	133,232	132,357
Bus Fleet Size (Year End) 1/	1,711	1,706	1,752	1,564	1,599	1,488	1,466
Scheduled Buses (Maximum)	1,401	1,396	1,436	1,361	1,333	1,324	1,304
Total Operating Cost (000s)	$258,145	$275,065	$287,655	$291,842	$294,943	$291,083	$296,066
Total Revenue (000s)	$87,937	$96,102	$95,682	$101,125	$100,291	$100,813	$100,270
Total Operating Assistance (000s)	$170,208	$178,963	$191,973	$190,718	$194,652	$190,270	$195,796
Total Passenger Revenue (000s)	$79,166	$88,722	$89,539	$93,889	$93,784	$93,784	$92,866
Passengers Per Scheduled Bus Mile	n/a	n/a	n/a	n/a	2.82	2.82	2.88
Passengers Per Scheduled Bus	99,540	100,498	97,751	99,964	99,949	100,628	101,501
Cost Per Total Bus Mile	$5.14	$5.47	$5.60	$5.82	$6.15	$6.07	$6.28
Cost Per Passenger	$1.85	$1.96	$2.05	$2.15	$2.21	$2.18	$2.24
Average Passenger Fare 2/	$0.586	$0.632	$0.638	$0.690	$0.704	$0.704	$0.702
Passenger Revenue Per Scheduled Mile	n/a	n/a	n/a	n/a	$1.99	$1.99	$2.02
Operating Assistance Per Passenger	$1.22	$1.28	$1.37	$1.40	$1.46	$1.43	$1.48
Operating Assistance Per Bus-Total Fleet	$105,520	$104,902	$109,574	$121,942	$121,734	$127,870	$133,558
Percent of Operating Assistance to Total Cost	65.9%	65.1%	66.7%	65.3%	66.0%	65.4%	66.1%
Percentage of Total Revenue to Cost	34.1%	34.9%	33.3%	34.7%	34.0%	34.6%	33.9%
Percentage of Passenger Revenue to Total Cost	30.7%	32.3%	31.1%	32.2%	31.8%	32.2%	31.4%

1/ Ready Reserve Included; 75 Neoplans included in the ready reserve are inactive due to high maintenance costs and structural problems.

2/ Average is lower than base fare due to transfers and flash pass impact.

BUS FLEET INVENTORY

Mr. CARR. Please update the table displayed on page 345 of the 1993 hearing volume regarding the bus fleet inventory.

[The information follows:]

BUS FLEET INVENTORY

	Fiscal year—				
	1989	1990	1991	1992	1993
Total bus fleet	1,611	1,606	1,658	1,564	1,492
Scheduled buses	1,401	1,396	1,441	1,361	1,327
Buses available for spares	210	210	217	203	165
Spare Ratio	15.0	15.0	15.0	14.9	12.4

RIDERSHIP

Mr. CARR. Please update the rail and bus ridership data shown on page 345 of the 1993 hearing volume. Also update the annual ridership by fiscal year table that appears on page 346.

[The information follows:]

AVERAGE WEEKDAY RIDERSHIP

	RAIL	BUS
January 1988	464,100	439,700
January 1989	501,600	446,200
January 1990	498,000	444,400
January 1991	507,000	444,000
January 1992	491,000	453,000
January 1993	532,000	462,000
Growth: 1992-1993	41,000	9,000
Percent growth	+8.4%	+2.0%
Fiscal year:		
1992 average weekday ridership thru Feb.	493,000	458,000
1993 average weekday ridership thru Feb.	506,000	442,000
Growth	13,000	-16,000
Percent growth	+2.7%	-3.5%

ANNUAL RIDERSHIP BY FISCAL YEAR

	METROBUS	METRORAIL	TOTAL TRANSIT
1988 actual	138,635,000	136,670,000	275,305,000
1989 actual	139,456,000	144,013,000	283,469,000
1990 actual	140,295,000	145,025,000	285,320,000
1991 actual	140,391,000	147,077,000	287,468,000
1992 actual	136,051,000	145,446,000	281,497,000
1993 estimate	133,232,000	147,635,000	280,867,000
1994 estimate	132,610,000	149,070,000	281,680,000

CLOSING REMARKS

Mr. **Gunn**. I forgot, since this got turned around, I didn't introduce the people I have with me.

Mr. **Carr**. Please do that. I am remiss, too. I guess we are all sort of waiting, ready to get out of here. We are short sheeting some people here.

Mr. **Gunn**. They don't have to say anything.

Mr. **Carr**. Please introduce them.

Mr. **Gunn**. George Miller, Deputy General Manager; Peter Benjamin, who is the Assistant General Manager for Finance and Comptroller, and then Tracy Tucker, who is the man that is going to build this in record time. He is the Assistant General Manager of Construction. And Debbie Lipman, who gives us the answers.

Mr. **Carr**. But she is not a lawyer.

Mr. **Gunn**. She is not a lawyer. We didn't bring a lawyer. I hope that is a credit to Metro.

Mr. **Carr**. That is all right. I am a lawyer, but I am almost over it. It is not terminal. You can recover.

Anyway, thank you gentlemen.

The Committee is adjourned.

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